BREEDS OF INDIAN CATTLE.

The Indigenous Breeds of Cattle in Rajputana

WITH PHOTOGRAPHS

By

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PREFACE.

THE *following information* was collected by Captain F. S. H. Baldrey in 1905 but for some reason, not apparent, was not published.

While not claiming to be an exhaustive report on the subject, the information which it contains is valuable and so far as it goes, accurate.

The photographs give a very good idea of the different breeds noticed and were taken by Captain Baldrey at places where the breeds are indigenous.

SIMLA.

H. T. PEASE, COLONEL,

Dated 7th August 1909.

Inspector General,
Civil Veterinary Department.

INTRODUCTION.

Order.

THE order *Ruminantia*, *genus Bovidæ*, is represented in Rajputana, amongst domesticated cattle by two of the groups, *viz* :—

Species.

(1) *The Taurine* or ox by the Zebu.

(2) *Bubaline* by the Buffalo.

Cattle are to be found all over the province, buffaloes are mostly found in the eastern part.

A short account of the species and their characters will be found in the book on Punjab Cattle, published in this series. The remarks made there concerning crossing, ageing, breeding, etc., are generally applicable, so that repetition is unnecessary.

Explanation of Measurements.

With regard to measurements, the total height is taken immediately behind the hump. The length is taken from the point of the shoulder to the point of the buttock, without curving the tape. The length of the face is taken from the poll to the commencement of the muffle. The breadth of the forehead is its greatest width, immediately above the orbital processes of the frontal bone. The girth is the circumference of the chest immediately behind the hump.

Weight.

In order to obtain the weight of an animal one arrives at a fairly accurate estimate, by multiplying the length by the girth squared in inches, and dividing by 300. This gives the weight in pounds avoirdupois.

Proposition.

To arrive at a conclusion as to whether an animal is fairly well proportioned as to body measurements, the girth of the shank in inches, if multiplied by 9, gives what the girth of the chest in inches ought to be.

Details have been avoided in the description of soil, fodder, water supply, and minute geographical characteristics as these matters are fully given in the Gazetteers. Mr. Duthie having described the grasses and fodder plants of this country, it is not thought necessary to more than cursorily mention them.

Soil and fodder.

These notes were made in the Autumn and Winter of 1901 and 1902, but the conditions then are not very different from what they are now. More attention to breeding is very necessary.

The Indigenous Breeds of Cattle in Rajputana.

CHAPTER I.

CATTLE OF RAJPUTANA.

Classes.

THE cattle of Rajputana, are on the whole of an excellent type, and may be divided into five classes, as follows :—

(1) Nagori together with the Merwar.	(3) Mewati.
(2) The Rath.	(4) Begri.
	(5) The Rinda.

Nagori.

The Nagori breed of bullocks is one of the best to be found in India, the bullocks are big, powerful and active, capable of heavy draught in the deep sand of their native country.

Rath and Mewati.

The Rath and the Mewati are allied to the Nagori but are distinct types found in the Eastern parts of the States. They resemble, though they are inferior to, the Harriana.

Begri.

The Begri bullock is a small animal, existing in comparatively few numbers in the Eastern and Southern parts of the States. It is very distinctive, and extremely suitable for the country in which it is bred.

Rinda.

The Rinda, or Ajmeera, is a small and inferior animal, reared chiefly in the vicinity of Ajmer, and exported to and commonly found in the majority of the States where it is used for all ordinary purposes.

Character of country and suitability for breeding.

There is no doubt that Rajputana is an excellent cattle breeding country. It is sandy and water is scarce, which necessitates cultivation being at a minimum, this leaves huge tracts of country on which, although the herbage is sparse and the feed somewhat scanty, the grazing quality is excellent.

To the ordinary observer passing through the country, it would appear from its desert-like aspect that the rearing of cattle would be an impossibility, but if enquiry be made and the cattle in and around the villages be examined, it will be noticed that they are in good condition although their food consists of nothing but what they pick up on the apparently dried up grazing ground.

Customs of population and Breeders.

The population of the country in Jodhpur and the Southern part of Bikaner is essentially a cattle breeding one. The majority of the cultivators keep and breed or buy and rear cattle and this is absolutely necessary for them in order to get a living. In these parts so many years of scarcity occur in which the crops partially or entirely fail that cattle breeding and rearing becomes an important means of livelihood. The people who engage in this pursuit are of necessity more or less birds of passage. During a good season they remain in their own villages, but whenever there is scarcity, they travel slowly to other districts where grazing is more plentiful, grazing their herds by the way. The people of the Nagaur district as a rule, travel south and west into Malwa and so far as the district round Mhow or into North Guzerat and Sindh. These people are commonly known as *Banjaras*, and it occasionaly happens that there is some friction between them and the local inhabitants over the grazing ; they are, however, generally taxed for their grazing rights.

Disadvantages of mixing of breeds.

Considering the advantageous conditions which exist in this country for cattle breeding, it is regrettable to notice that the breeds of cattle are neither so good nor so pure as they undoubtedly formerly were. I deduce this from observation and comparison with the accounts that natives themselves give. There is nothing authentic written concerning these points, but it appears certain

that all the breeds above mentioned have deteriorated greatly owing to intermixture with the surrounding breeds. It is a pity that this production of cross breeds is on the increase. Colonel Evans has struck a true note when writing of the conservatism of the Burman in this respect and his dislike to the introduction of foreign cattle (*vide* Cattle and Buffaloes in Burmah Introduction and page 30) and Colonel Pease also in his remarks on the cattle of Rohtak (P. 39 *et seq.* Punjab Breeds of Cattle).

Small Cows.

One cannot fail to be struck when inspecting herds of cattle in these districts with the smallness of cows. It would almost seem from the greatly disproportionate size of the bulls and bullocks to the cows that they are of different breeds.

Cause.

This is particularly noticeable in Rajputana where the grazing on which the cows almost entirely subsist for some part of the year is scanty. It appears that the cause of the smallness of the cows is the treatment they receive. A heifer from the time she is born is never done so well as a steer. The zeminder wants his bullock to be a fairly big and sufficiently powerful animal to do the work that will be required of him ; but the heifer is either for sale or for breeding purposes and for the production of a certain quantity of milk. The zemindar has found from experience that the cow, although small, will produce a steer which, if fairly well fed, becomes a useful animal, not apparently suffering from the bad treatment to which his mother has been subjected. There is no doubt that the long continuance of this system accounts for the deterioration which is manifest in those parts where breeding is not a speciality, and it is on this account also that the zemindar has so often to replace his stock by buying at fairs instead of rearing his own cattle. But as owners say, they find it difficult to live themselves and the females have to suffer in order that

Milk and its Influence.

the males may be sufficiently well fed. A female calf is not allowed so much milk as a male calf. For instance, if a zemindar allows his male calves to have three teats of the cow for the first month of its existence he allows the female only two teats. The usual custom of the ordinary farmer is to give the males all the milk for a month, $\frac{3}{4}$ milk next month, $\frac{1}{2}$ the third month and then gradually wean them altogether. The females get less than that. Regular cattle breeders such as exist in Dera Ghazi Khan, Sibi, Guzerat, Nagore, etc., breed for sale, and they feed the calves very well. The small zeminder does not view the question in the same way, his idea

being to save money to-day, no matter what the consequence may be to-morrow. A great deal of good might result amongst the better class farmers if prizes were given at certain cattle shows. These prizes to be given to heifer classes and the classes to be composed of breeds of a certain fixed type. For example, at Bhiwani Fair, separate classes for the Harriana, Rath and Mewati breeds of heifers, and so on the prizes at different fairs being given to the breed peculiar to the country in which the fair is. Prizes only to be given to 3 classes of heifers of any one breed, that is, 6 months to 1 year old, 1 to 2 years old and 2 to 3 years old. This should stimulate the better feeding and care of heifers. Prizes for bullocks are unnecessary as these animals are an absolute necessity to their owners and must be done well. I have suggested the giving of prizes to young bulls. It is the almost general custom never to castrate before 2½ years, very often not until 3 years. I therefore advocate a class (confined to distinct breeds) for 2-3 year old bulls. This should stimulate the production of good class animals and from them District Boards and others could buy up young bulls for distribution amongst villages or for stud farms. It would possibly not only stimulate the production of the best bulls in the district and give them all a chance before castration, but it would also simplify their acquisition.

Prizes at Cattle shows.

Dedicating Cattle.

There is no doubt that under the present system of dedicating cattle when very young, numbers of bulls are loose that would be better tied up or castrated, and on the other hand many good animals are castrated, simply because they can never become known and their owners castrate them in the ordinary course without realising the harm they are doing.

Castration.

In the Nagore and Balotra districts where castration is performed at 6 months, a special class would be necessary for cows with a calf at foot, the calf to be under 12 months of age. From this class animals might be selected in the same way for a similar purpose.

Bulls.

In the buying of young bulls for future stud work it is desirable that representative men should be sent from the place where the bull is required, to approve the selection and see that only animals of the breed indigenous to that district be selected. The importation from any other breed should be distinctly negatived. A considerable amount of harm has been done by the importation of breeds foreign to districts for which they were totally unsuited. The only way to improve any distinct breed is to breed

Importation of Foreign Breeds.

Improvements in Breeding.

up to a particular type and this cannot be achieved by the introduction of a bull of another breed from some distant district; it can only be done by using selected bulls of the same breed, (*vide* remarks on Hissar and Bengal in Punjab Cattle Notes, Colonel Evans in Cattle and Buffaloes of Burma, Colonel Pease on the cattle of Rohtak and the author, on the Potohari Cattle in the Jhelum district).

Confining Bulls.

It has been suggested that bulls should be kept tied up as in England but with this I do not agree. The native system by which bulls run loose amongst the herd and are fed at the expense of the community is quite satisfactory and pleases the breeder.

Covering.

The bull remains in better health and does not bull more cows than he should: he will attend to 70 to 90 cows, and no more, even if there are more within reach. Moreover, if there are sufficient bulls, which the *zemindar generally takes care* to have, there will be no trouble under this head.

Feeding of Bulls.

It is not likely that the bull will get too much to eat amongst crops, etc., the owners of the crops see to that.

Exercise.

The exercise the bull gets in walking from place to place to obtain a sufficiency of food is the best possible thing for his health.

In visiting Rajputana in a bad season, it is lamentable to see the evil effect of a few successive years of famine in the herds.

Famines.

In the Balotra and Barmer districts which are the headquarters of the breeding of Nagore cattle, only 5 to 10 per cent. of the cattle remain and the owners of these even are travelling in Sindh and other places seeking fodder. In a good year when there is plenty of grazing the grass which is not used is allowed to go to waste, no arrangements being made for the saving of surplus fodder—storage of hay as a reserve in the event of failure of the crops in the succeeding year.

Studs.

Another matter which does not seem to have received any attention is the formation of breeding farms for the production of high class bulls. It is a well known fact that "Cattle in India are the backbone of agriculture" in fact they are the only stock, as a rule, which has any interest for the farmer. India being essentially an agricultural country and cattle being so important to that industry it is not a little extraordinary to find that horses which really do not form a part of the agricultural stock of the country and are therefore only of secondary importance to the farmer, have always received far more attention than has

cattle breeding. Many lakhs of rupees have been spent on the encouragement of the breeding of horses and but little on cattle. The formation of cattle breeding studs in all centres where good indigenous breeds are present would be a very beneficial measure. It would allow of good typical bulls being bred and available to the people in the event of famine or other causes killing off the village stock. The surplus stock could easily be sold off at a good price.

An instance of the serious nature of the losses of breeding stock was very apparent in 1901 in Balotra and Barmer where all the bulls died, and cross bred animals from Sindh had to be imported. These will infect the herds of Nagore, and the cross will take years to eradicate. Fortunately some thoroughbred Nagori calves remained and these were branded and turned out and the situation to some extent was saved.

NAGORE DISTRICT.

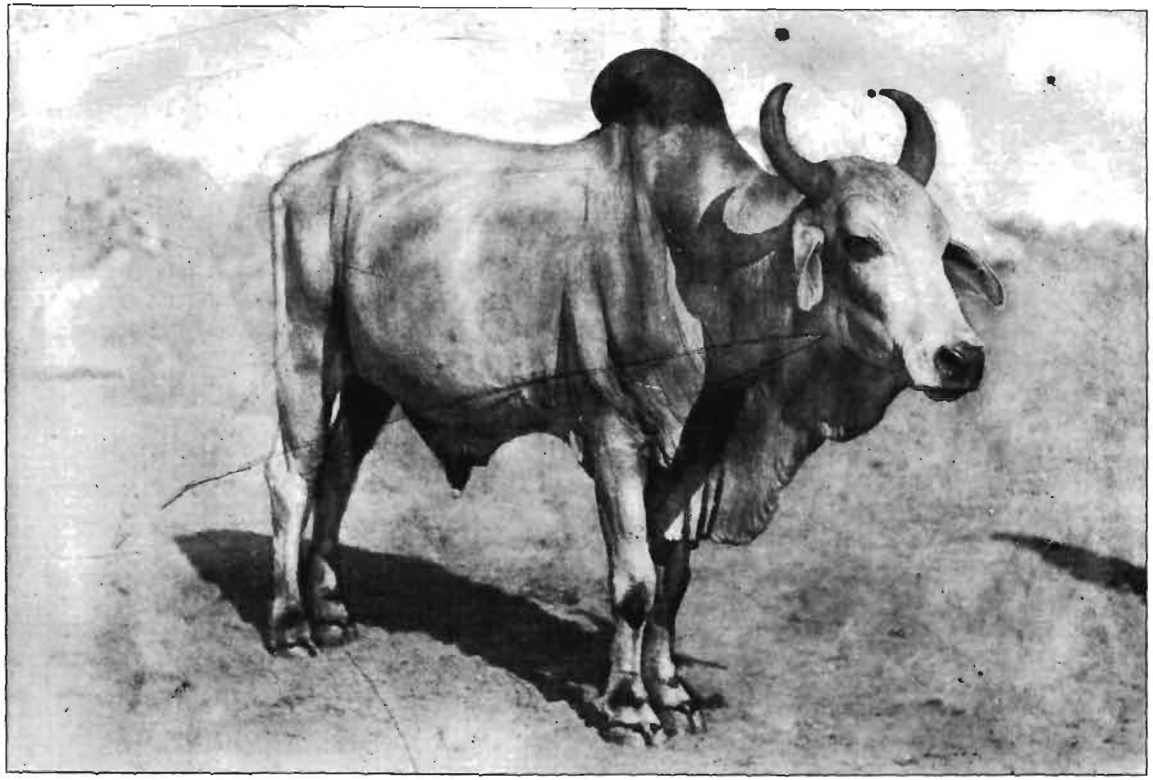
Nagori Breed.

Peculiarities.

The tract of country called Nagore lies to the north and west of Jodhpur in Rajputana and Bikaneer. The district of Nagore is in reality only a small tract and it is a curious fact that it is only within a radius of 15 or 20 miles of Nagore and in another small district of Jodhpur around and between Barmer and Balotra that pure bred *Nagore cattle* are bred and reared. It is really in the latter district that the cattle are generally actually bred. They are bought as calves by the inhabitants of Nagore at the Balotra and Barmer fairs and are taken thence to Nagore, where they are reared. The soil of the Nagore country appears to be particularly suited for cattle rearing. It has already been noted that the people belonging to this district lead a nomadic life grazing their herds from place to place when necessary.

Character of soil.

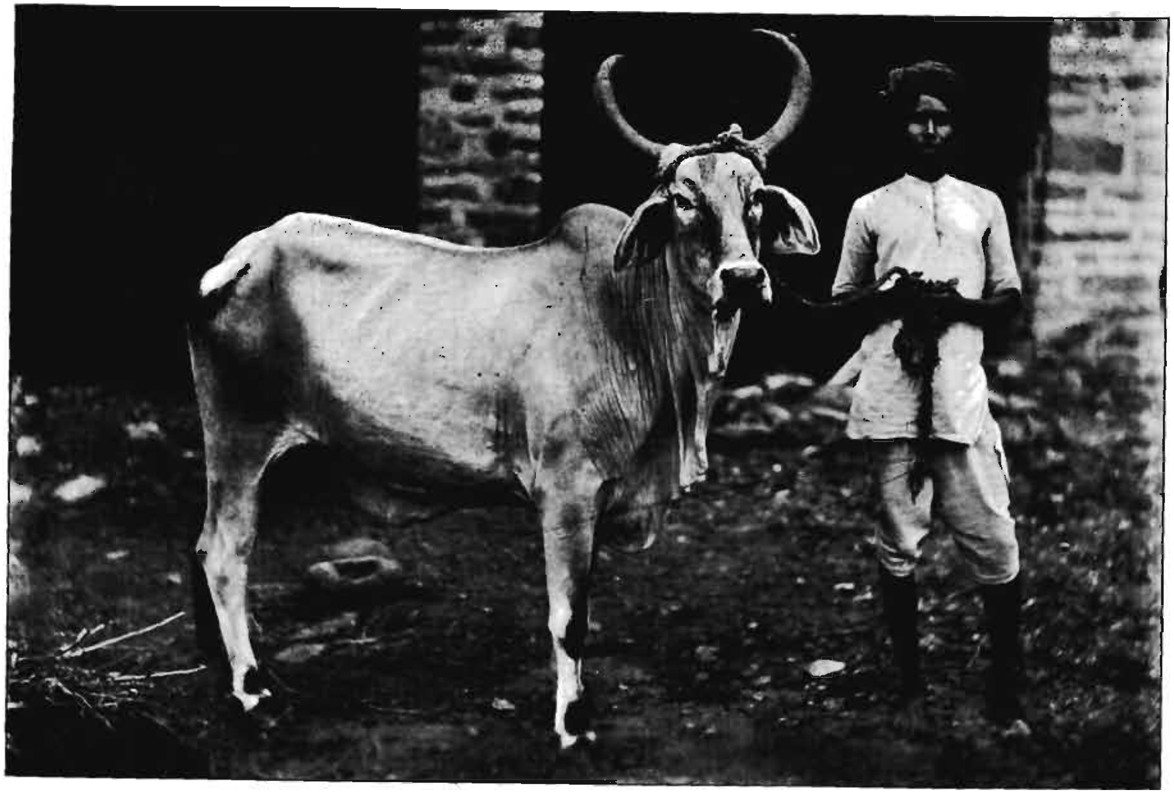
The country is more sandy than Alwar. There is a tract in the Nagore country called Sohalik (the black country) which commences about ten miles south and east of Nagore and where the soil is of a darker color than that in the actual Nagore district. It has a liberal admixture of clay which makes it heavier and richer than the deep sand found in the immediate vicinity of Nagore. There the crops are better and there is much more grazing,



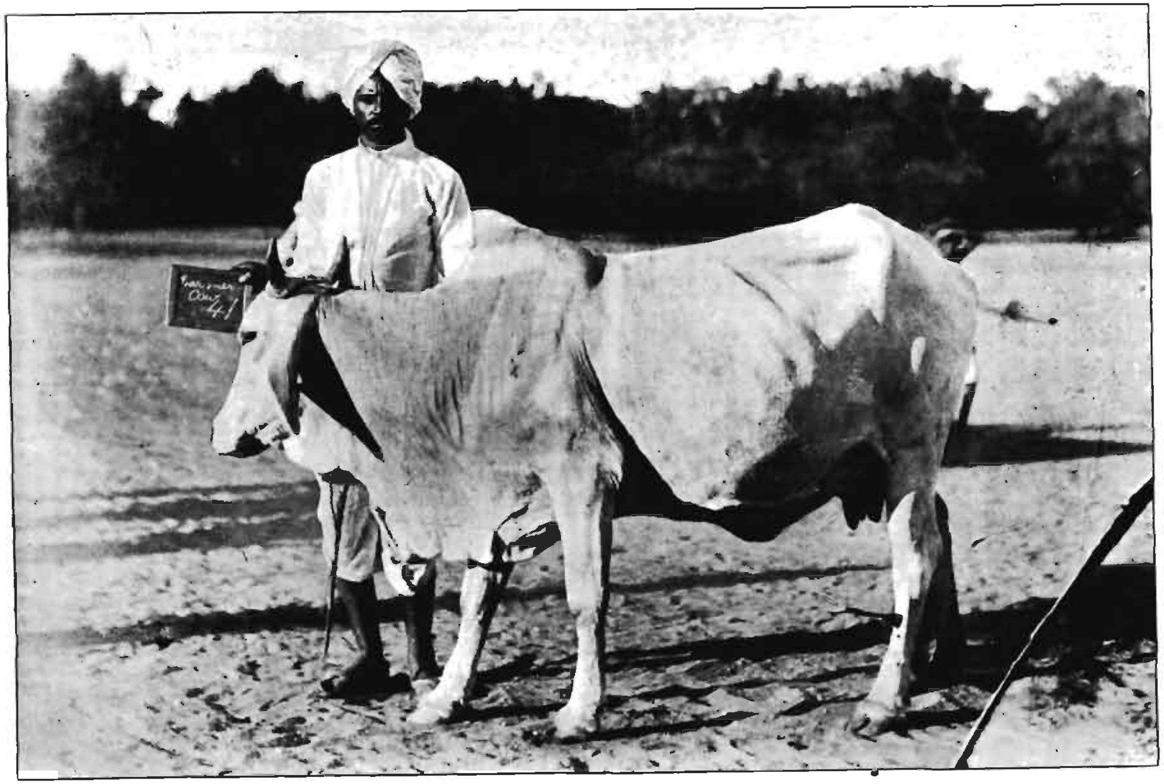
NAGORE BULL

Taken at Nagore

Note the comparatively short horns as compared with the Wadyal.

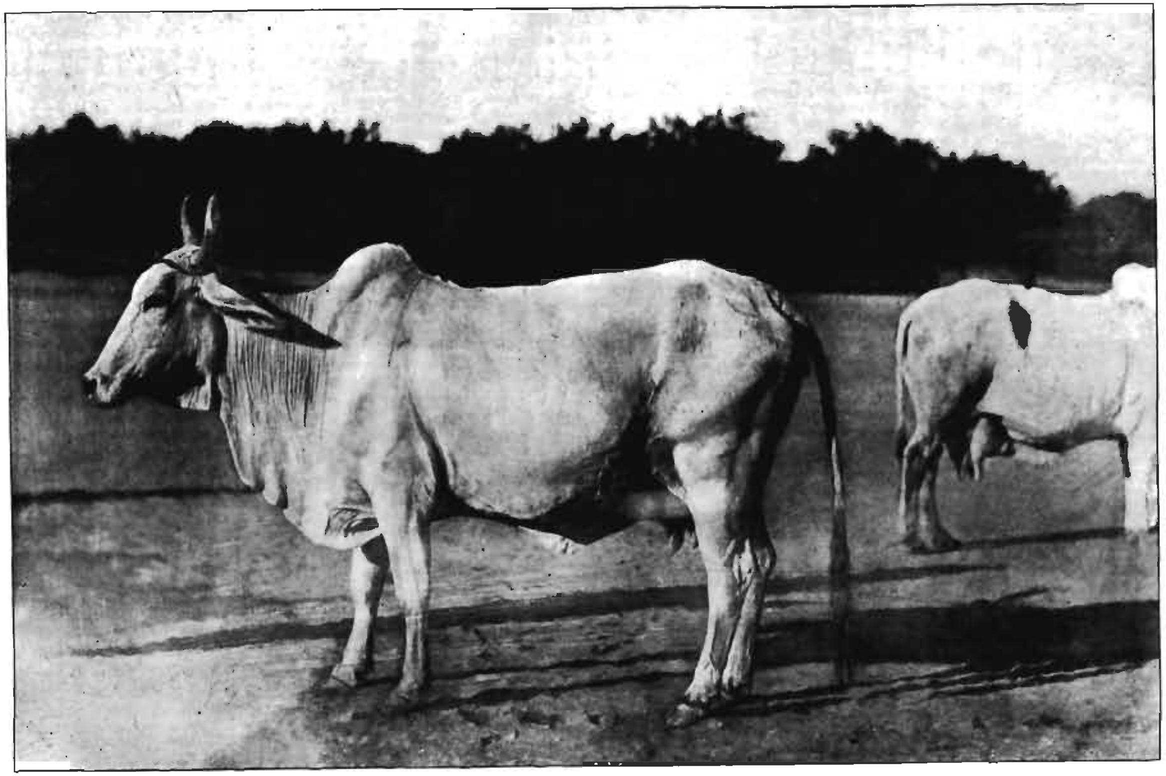


NAGORE COW— Property of Jodhpur State
Taken at Jodhpur.



NAGORE COW

Taken at Jodhpur.



NAGORE COW—Bred in Barmer
Taken at Jodhpur.

the land in uncultivated places growing a plentiful supply of a short but fine and nutritious grass which is especially retained for cattle.

Water.

The water supply is obtained from pools which are always dependent on the rain supply and it is only in time of scarcity that wells are resorted to, as they are generally brackish and very deep.

Fodder.

Cows and bulls get little beyond grazing but work bullocks and cows also in time of scarcity are stall fed. Cows are grazed throughout the rainy season. Grass, Bajri, etc., is stacked and used during the winter and summer for cattle.

The feed of a Nagore bullock when kept for tonga purposes or in the transport of a Native State is:—

Gram 2½ seers, Gur ½ a seer.

Barley flour ½ a seer, Churree or grass 10 seers.

Bunniahs usually give a certain amount of *ghee.*

The Zemindar gives his bullocks when they are ploughing, doing cart work, etc., Juar and Bájra, of each about 2 seers a day and Karbi or grass *ad lib*, which amounts to about 20 seers a day. They are also given about ¾ seer of sesamum oil as a drench by means of a hollow bamboo.

Cattle market.

There are no cattle markets in Nagore itself but one is held at Balotra, 60 miles from Nagore, annually. Cattle are also taken to Pushkar, Hissar and Hansi.

Description of a good Nagore cow. (Barmer District).

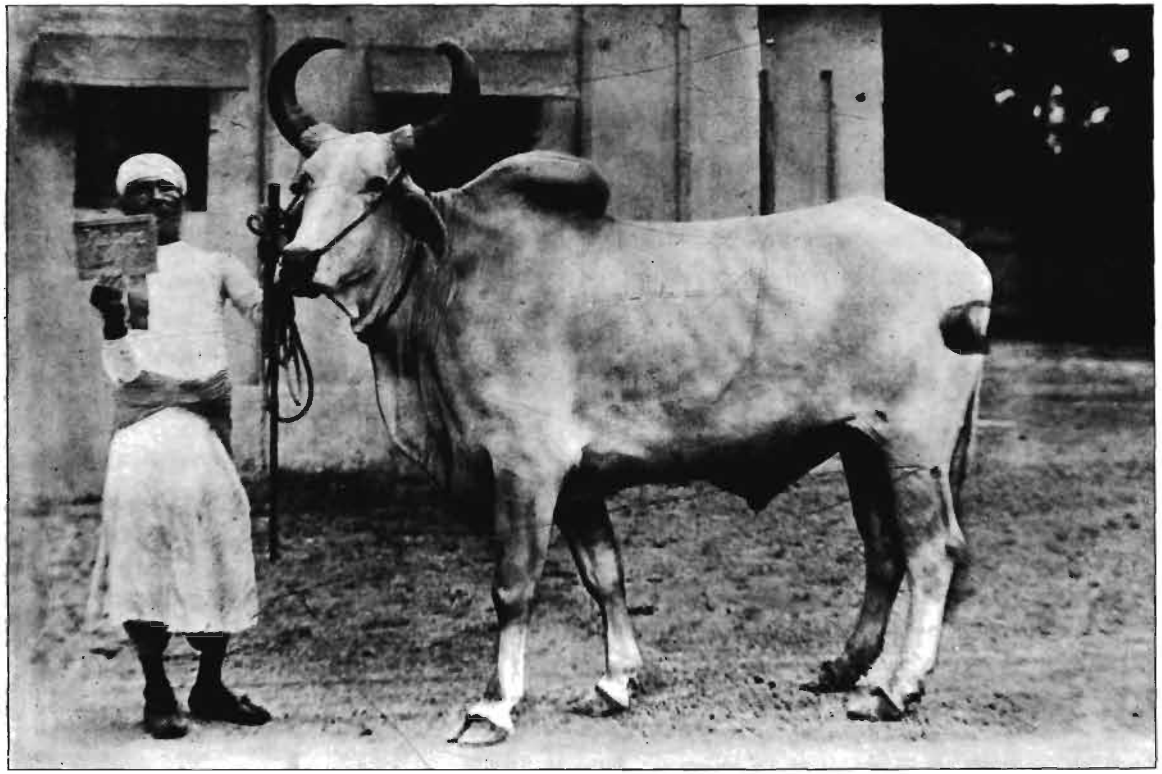
The face is straight with somewhat pointed nasal bone, with a fine muzzle and a widely open eye. There is a very slight protuberance of the orbital process, the horns are situated far back, with the same curve as in Nagore bullocks. The ears are large and pendulous, the neck appearing long principally on account of the absence of the dewlap. The ribs are rounded, the quarters broad, straight and well developed, and the tail long and whippy terminating in a tuft of black hair. The arms and thighs are well developed, the feet small and compact, the legs straight and the hocks broad and powerful. The sheath is rudimentary, the milk vein is well developed and the udder extends well up between the thighs. The hump is only slightly developed. Measurements were not taken.

Description of Nagore Bullocks.

As a rule they are fine, big, up-standing cattle, active and docile, generally white or grey in color, and suitable for transport or ordnance. They are fast, trot well, and are much valued for their quality in this respect, being sought after in all parts of Rajputana. The face is long and narrow, differing from that of the Hariana breed in having no marked prominence of forehead. The eyelids are rather heavy and overhanging, the eyes small, clear and bright, and the muffle clear cut and square. The horns are generally large and well developed, curving outwards, upwards, inwards and generally backwards. The neck is short and fine, the dewlap small and the hump well developed, in many cases hanging over.

A peculiarity of the breed is that the hump in addition to being well developed, is placed in so forward a position on the withers that the superior border of the neck appears to be very short, apparently pulling the poll backwards and so giving the face a poked out appearance. The shoulders are deep, with a good slope; the forearms powerful, the cannon short and the feet comparatively small and close. There is occasionally a marked tendency to calf knee and turned out toes but in the better specimens the legs are perfectly straight. The girth is deep, the ribs are well rounded, the horns fairly long, quarters long and straight with the tail well set on. The gaskins are very powerful and the hocks straight and well developed. The sheath is small, the tail long, thin and whippy, reaching to just below the hocks and invariably having a fine black tuft of hair at the end. The ears are long and pendulous with obtuse points.

There is throughout the Nagore breed a tendency to legginess and lightness of bone, which apparently increases their activity in the heavy sand as it is said to do in Wadyal cattle. It however detracts somewhat from their value as transport and ordnance cattle, for which the heavier and more phlegmatic breeds of Mewat and Nimar are better liked by transport officers. A pair of bullocks are reputed to be capable of easily doing 40 miles in 15 hours, pulling a cart loaded with about 6 to 9 maunds. The very forward position of the hump is probably the reason why these cattle have such power in draught It allows of the yoke pressing well in front of the centre of gravity and enables the animal to use the whole of its weight in addition to the push given by the powerful propelling muscles of the loin



NAGORE BULLOCK, PURE BRED. Alwar State
Taken at Alwar.

quarters and thighs. The cows in all respects very much resemble the bullocks but they are smaller and invariably have shorter horns. The dewlap is small and the rudimentary sheath is always marked. The udder is well developed with large pronounced teats.

Milk.

They are as a rule moderate milkers but when kept entirely for dairy purposes and liberally fed, the yield may amount to 10 seers a day.

Colour.

They are invariably white or grey.

Bulls.

The bull should have a fairly long neck and a large well-developed hump. The horns to be thick and well curved but not very long and shaped as described in bullocks. The sheath small and pointed at the extremity; the dewlap comparatively small, the tail thin and fine, reaching to just below the hocks and terminating as in the bullock. Bone need not necessarily be big in circumference but should be hard and tough looking. The hind quarters should be straight. The natives think a great deal of an animal with a long face, as they express it, "he should have a long narrow face similar to a horse."

Breeders are not so particular about the cows which do not get nearly enough attention, but a breeder will always prefer a big well bred cow to a small well bred one.

Points in Breeding.

The breeders say that they do not like either a bull or a cow with big boned legs but prefer small bone and marked activity, although in a bullock big bone is esteemed. It is not easy to understand this, but possibly the education and upbringing of a bullock appears to develop the points required for work to a considerable extent. Although neither bull nor cow may have exceptional bone, it is considered a *sine qua non* that both parents should be well bred. A better class of bull and cow is obtainable in the districts round Barmer and Balotra. As has already been said it

Purchase of young stock.

is in these two breeding districts that the cattle are bred and the breeders take their young calves thence to Balotra Fair where they are purchased by the roving cattle rearers from the Nagore district who rear them in Nagore, or in other districts, as the exigencies of scarcity or famine may dictate. A considerable amount of breeding is done in Nagore as well and the

Colonel Powlet.

people are careful to keep their own breed. Colonel Powlet in his Note on Nagore endeavour to

differentiate the two breeds but I am convinced that they are one and the same. I have not even noticed that the cattle from these districts have a better formation of quarter than those in the Nagore district, the peculiarly sloping conditions of the back, loins and quarters in a downward direction is equally noticeable in the cattle of both districts and is a feature of the Nagore breed. I think that the appearance is in reality more due to the large hump and its forward position. The rearers in the Nagore district buy their stock at 2 or 3 years old using them at once in light work and getting them ready for sale in the markets above mentioned. They also buy younger stock which they turn out to graze with the older animals.

Work.

The breeder uses his bullocks for ploughing cart and well work and they commence heavy labour usually at 4 years of age. It has been mentioned that these cattle are greatly prized for their powers of endurance and the pace at which they can travel. Rich merchants in the Native States of Rajputana keep good specimens of these magnificent trotting bullocks to pull their light two wheeled *majholies*. They can trot along at a very fast pace and keep going for many hours. I myself have done 40 miles on a sandy road in 8 hours, actual travelling, that is, 20 miles out and 20 back with a halt of 3 hours. 40 miles even in 11 hours is very good going with one pair of bullocks on a fairly heavy, kutcha, sandy road. The Bunniah class in Jodhpur and Bikaner have races with these bullocks and great interest is centered in them. Some of them are sold for as much as 600 to 800 rupees a pair.

Milk.

In Nagore itself dairying is not an especial feature and the native has not in any way bred cattle simply for milk producing purposes. The Nagore cows are, therefore, not good milkers, the ordinary yield is about 6 seers, but in cows kept for dairy purposes, as I saw at Alwar, the yield may reach 10 seers a day. The period during which milk is given is the same as in the Rath cows.

Method of Breeding Bulls.

Bulls are selected by the villagers themselves in the proportion of 1 to 100 cows, but the breeders say that 80 cows to one bull is better. In Nagore the bulls are usually procured from the Barmer and Balotra districts and are either given by a rich landowner who allows a committee of villagers to

make the selection and himself pays the price, or the bull is selected and paid for by general subscription from the villagers. The bull grazes and lives entirely with the cows, and is kept at the public expense so that no hardship falls on one individual. The zemindar depends entirely on the prepotent influence exerted by the bull in producing good stock and is therefore somewhat careless as to the quality of the cow, although in the chief districts of Nagore and Barmer no Dogla (half bred) is admitted to the village herd.

Grazing.

The herds go out from the village every morning at about 8 o'clock, remain on the grazing grounds all day, under the charge of boys, and are corralled in the village again at sunset in the evening.

Stall Feeding.

In seasons of scarcity they are to some extent stall fed.

Young Stock.

Cows, when about to calve, are in some cases given extra feed or sesamum oil (*til*) and oil cake, and if not strong remain in when the other animals are grazing. It is however very seldom that complications arise in the birth of the calf and more often than not they are born without any particular notice being taken of them.

Treatment of Calves.

A calf at birth is allowed all the milk of the cow, but if it be a heifer-calf, this allowance is soon reduced to half and as quickly as possible, that is at about 4 months, the young heifer is weaned. The remainder of the milk is used up for *ghee* making and drinking purposes. In order to prevent the calves from sucking the cows they are either kept corralled in the village during the night and part of the day, and so kept apart from the cows, or they are muzzled to prevent them from getting at the teat. Heifers are not, as a rule, bred from until they are 4 years old.

Castration.

The operation of castration is here performed in a different manner to that practised in most other places in India. The operation is by section and it is performed at the age of 6 to 8 months, usually in the months of April and May when wounds are said to heal more rapidly than at other times. No after treatment is adopted and it is seldom that any complications arise. This is no doubt due to the excessive dryness of the climate, which is particularly favourable to the healing of wounds. The breeders themselves do not perform the operation as it is against caste prejudice

but the *chamars* of the village do it and a calf may be sent to some distance to have the operation performed.

Prices. A pair of fast trotting bullocks cost from Rs. 300 to 600; an ordinary plough pair Rs. 200 to 300. A good cow is usually about Rs. 30 to 80. Exceptional cows realise Rs. 100. Bulls are not generally sold but those that are selected for breeding purposes are considered fit for stud work at 4 years and the price would then be Rs. 80 to 100.

Prevailing Diseases. Disease is not common, occasionally Rinderpest, Foot and mouth disease and Malignant Sore Throat occur.

Prevailing Color. Grey or white, the latter for choice.

MEASUREMENTS OF NAGORE CATTLE.

Sex.	Height.	Length of body.	Girth at chest.	Girth of shank.	Length of shank.	Length of horn.	Length of face.	Breadth of forehead.	Age.	Color.
Bullock No. 17 . .	67	66	81	9½	9	24	24	7	9	White.
,, ,, 18 . .	58	64	78	8	6½	23	22	8¼	9	,,
,, ,, 19 . .	65	63	82	8¾	7¼	11	24	8	9	,,
,, ,, 42 in group of 3.	57	62	72	8	7½	16½	21	6¾	6	,,
	59½	54	72	7½	7	19½	20½	7½	5	Slate.
	57½	52	73	7½	7¾	4	20	7½	5	White.
Nagore cow No. 20 .	54½	53	72	7¼	7½	13½	22	7½	8	,,
,, ,, ,, 21 .	53½	56	70	7	7	11	21	7	6	,,
,, heifer ,, 22 .	58¼	62	75	7¾	7½	5¼	20½	7¾	3	Red.
,, cow ,, 43 .	51½	55	63	7	7½	11	19	7	6	White.
,, ,, ,, 44 .	52½	55	66	7	7	9	18½	7	5	,,
,, ,, ,, 46 .	48½	51	67	6¼	6¼	11	19	6	6	,,

BALOTRA AND BARMER DISTRICT.

THE MARWAR BREED.

Characteristics.

The ilaka is divided into four parts, *viz.*, Malani, Sanchore, Sivana and Dhat, all about five or six miles around Balotra. Balotra is in the ilaka of Pachbhadra.

The soil is sandy, the water is generally scarce and brackish. The wells, sunk at moderate depth along the course of the river Luni, produce sweet water and are easily workable. Places ten miles from the river bed have only bad wells and are dependent on the rain supply which is stored in tanks. There is a salt lake at Pachbhadra about six miles from Balotra which indicates the character of the country. There are low stony sandy hills in the district around Barmer. For the seven years preceding 1902 there were successive famines which destroyed many cattle, not more than 5% of them remaining alive. In consequence of this, cattle for working purposes and also cows had been imported from outside districts. These are naturally cross breds and have had anything but a salutary effect on the breed. A few bulls still remain and the breeders said that if they could get some good bulls the breed would soon be reanimated.

Fodder.

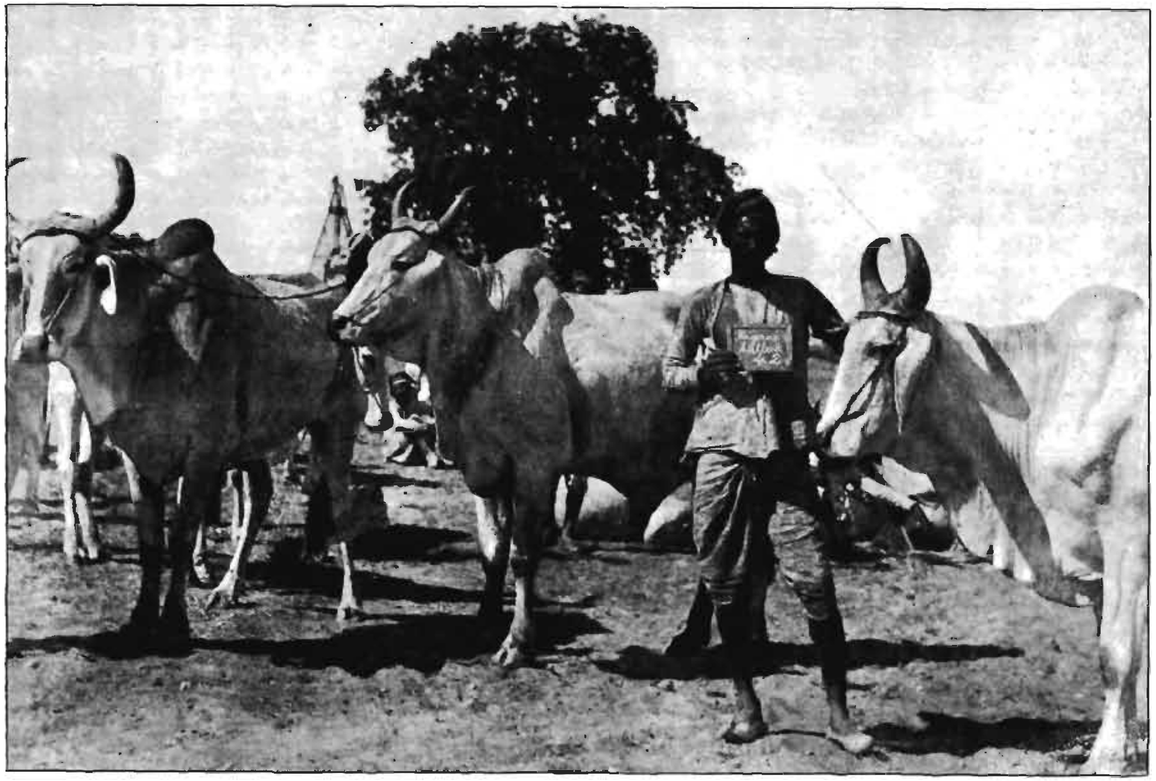
The cattle live by grazing when there are rains and grass is plentiful. In the day time the cattle are let loose to graze and in the evening the milch cows and work bullocks are given " Banta " that is a mixture of wheat or barley husk, guar, cotton seed and oil cake.

Cotton seed increases the yield of ghee and guar increases the quantity of milk. The bullocks in work are given less cotton seed and more oil cake.

In the seasons of drought the cattle are taken to Sindh and Gujrat, this did not avail them in 1901, as the famine was general and about 95% of cattle died of starvation in these districts.

Cattle Markets.

A big fair is held at Balotra, also known as Talmara or Chaitri, annually in the month of April or May; the popularity of the fair is widespread, people coming from all the surrounding parts, *viz.*, Sind, Gujrat, Ajmer, and Nagore to both buy and sell.



NAGORE BULLOCKS

Taken near Nagore

Right and centre—type. The one held by the man, not so good.

The people of Nagore being excellent judges of the Nagore breed select good or promising calves, take them back to Nagore, rear them and sell the bullocks so reared. Bullocks reared by them certainly attain greater size and activity than when reared in the more southern districts of Jodhpur.

A reason for this is that the people in the southern districts do not feed their young male calves so well as do the people. in Nagore and therefore the bullocks are inferior.

It is also said that soil of Nagore is better suited for the production of good fodder, and this is another reason why the young calves of Barmer and Balotra grow into good bullocks and acquire the name Nagore, but the reason given above concerning better feeding is I think accountable for the fact.

The Barmer breeders make the production of milk for ghee more of a speciality than do the breeders of Nagore, their cows therefore are as a rule better and more esteemed for their milking properties.

They are bigger than is usually seen at Nagore, which is no doubt due to the fact that more attention is devoted to the female calves which is probably the reason why the people of Nagore are always ready to buy a Balotra cow. Gujrat traders and people from the Punjab frequent the Balotra fair and buy bullocks of inferior quality at a low price.

Colour. The prevailing colour is white.

Description. The general description is the same as that of Nagore.

Work. Bullocks are used in well work, in the plough and in carts. In sandy parts of the country, camels are also used in ploughing the fields. Bullocks in carts, the roads being heavy sand, can travel about 20 miles a day.

Milk. The yield of milk from the cows is from 4 to 8 seers.

Breeding. More attention is here paid to the female calves than to the males, they are given milk for a longer period and in greater quantity, which is contrary to the custom in the majority of breeding districts.

Hindus are in the habit of liberating bulls to celebrate the occasion of deaths and other rites, such bulls being branded with a round mark

and the animal designated a *Suraj Ka Sand, i.e.,* "The Bull of the Sun."

The people are particular in selecting good calves for this purpose.

Occasionally Mahommedan breeders join together, buy a good bull and maintain it between them. Doing injury to bulls of this class is considered a crime and taken cognisance of by the police.

There is no fixed standard as to the percentage of bulls to cows, but it appears that the breeders consider 1 to 60 a good average, although if bulls are scarce, they have no objection to allowing one bull amongst 100 cows.

Prices.

Cows are 15 to 30 rupees, exceptionally the price may go to 60 rupees. Ordinary bullocks are 15 to 20 rupees a head, for exceptionally good fast animals the price may be 50 to 100 rupees. In bad years when cattle are scarce and a zemindar may have to buy at some distance from his district, he may have to pay as much as 200 rupees for a pair, which he considers an exorbitant price.

Castration.

The people are averse to castration, they use their own bred entire animals in work, although they buy castrated ones. There is a class of people called *Santhias* who are always present at the fairs and act in the capacity of castrator. The operation is performed with a knife, as is described in connection with Nagore cattle.

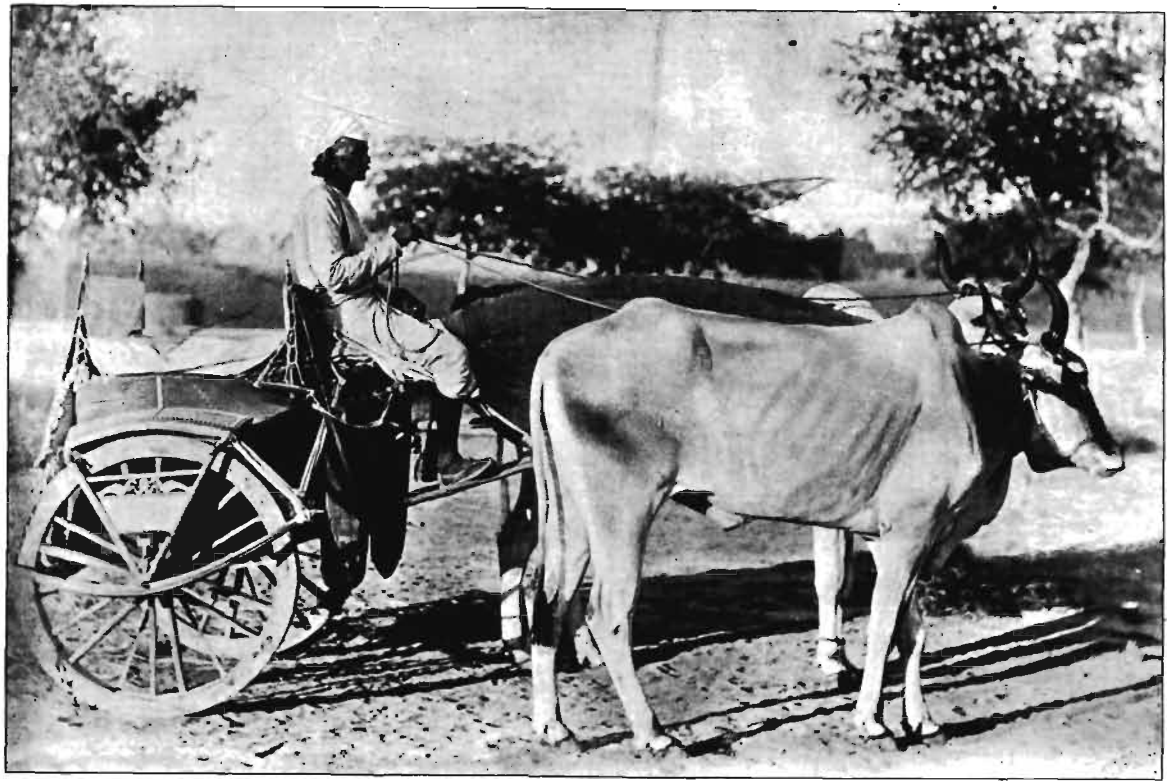
Fodder.

The grasses called Bhurat and Sivan grow plentifully during the rains but in times of scarcity, Lucerne and Guar are given to cattle. The Lucerne is grown entirely by well irrigation. The ears of Bajree are boiled and mixed with Guar and cotton seed and given to milch cows and work bullocks. "Banta" is also given.

It would seem that the preservation of pure bred cattle in this part of Marwar is more difficult than in Nagore, as the boundaries of the breeding districts are near to Sind and Gujrat, in which places cattle breeding is very extensive and there is a tendency to a mixing of the breeds, which is not apparent in Nagore.

Distinction in Nagore and Marwar Cattle.

A distinction has been made between Nagore cattle and those of the so called Marwar breed. I think, however, that this is a distinction without a difference. I have shown how an interchange goes on between the Marwar



NAGORE BULLOCKS, PURE BRED (Racing Bullocks)
Taken at Bikaneer.

and Nagore districts and if any difference exists in the districts south of Nagore it is due to the ease with which animals of the Wadyal type are imported from Gujrat (for a description of these cattle *vide* Mr. Mollison's book on the breeds of cattle in Bombay).

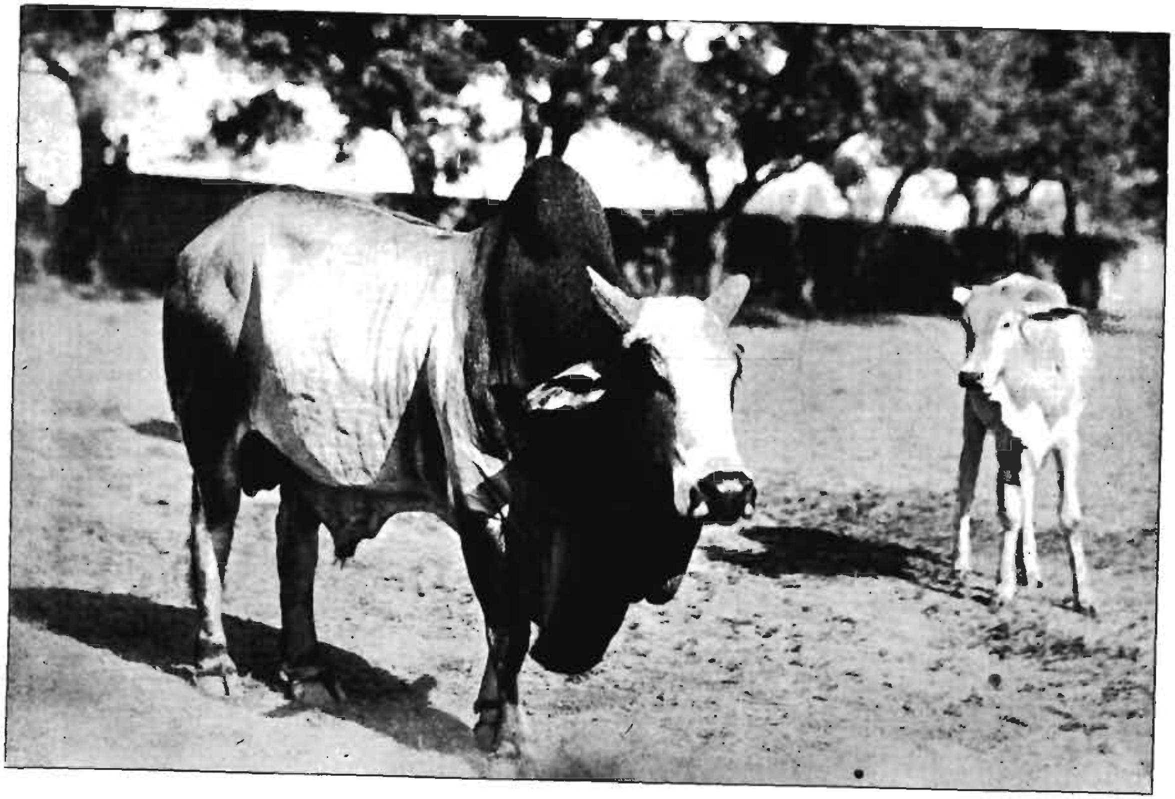
The so called Sanchor breed, described by Colonel Powlett, is I think also the Wadyal type which is largely bred around Palanpur (Mollison, Volume 2).

Character of the country.

The description of Nagore applies equally to Marwar, except that the latter has a tract of rough hilly barren country west of Barmer.

MEASUREMENTS OF BARMER CATTLE.

Sex.	Height.	Length of body.	Girth at chest.	Girth of shank.	Length of shank.	Length of horn.	Length of face.	Breadth of forehead.	Age.	Color.
Marwar Cow No. 40 .	50	Measurements could not be taken.								White.
„ „ „ 41 . group of 2.	50	50½	68	6½	6¾	13	18	6½	10	„
„ . . .	49½	58	64	6¾	7	7½	20	7	6	„
„ Cow No. 57 .	Measurements could not be taken.									„
„ Bull „ 58 .	Ditto ditto.									Red.
„ Calf „ 59 .	Ditto ditto.									White.
„ Bullock No. 55 . group of 3.	57	58	73	8¼	7½	18½	22	8	7	„
„ . . .	56½	58	75	8	7	16	22	8	7	„
„ . . .	56½	56	70	8	7	22½	20	7½	8	„
„ Cow No. 56 .	Measurements could not be taken.									„



RATH BULL

Taken at Bahoor, about 60 miles from Alwar.

The Rath.

History and Geographical Distribution.

The Rath is recognised by natives as a distinct type and has always been confined to one particular tract of country. Bansur to Narnol, being the eastern and western limits, and from Mundawar to Narnol the northern and southern limits. This embraces a good deal of Alwar in Rajputana and parts of the states bordering to the north and west of it. Anywhere outside these limits the breed becomes mixed with Nagore, Harriana and Mewat.

Nature of Soil.

The soil is a deep sandy loam, locally known as "Bhoor." It requires very little moisture. The general surface of the country is flat but there are irregular chains and groups of low hills which are, as a rule, entirely barren and covered with rocks and stones.

Water Supply.

The water supply is mostly from tanks and is entirely dependent on the rainfall. There are few wells, sweet water being only found at a great depth and the shallow water being brackish.

Fodder and Feeding generally.

The fodder supply depends upon the season of the year, from September to February it is chiefly for bullocks "Kutti" (chaff) of Juar or Bajri, Juar being considered the better of the two. This is mixed with the leaves of shrubs called Jhar Bher and with Juar or Bajri in the proportion of ¾ of Juar kutti and ¼ Pala (leaves of Jhar bher) the total quantity being from 15 to 20 seers daily for a bullock. From March to August, Tooree Khal, Pala, Bhoosa of Urood, Moth and Mung mixed together. The quantity being about 15 seers. In October and November the green stalks of "Karbi" (Juar) and green Guar, quantity as above.

In January and February, turnips and other roots are given in lieu of grain if the autumn rains have been good.

This is only given by the wealthier class of people and only by them in small quantities of about a seer a day and when the animals are doing hard work.

The Pala is preserved in houses, "Bhoosa" and "Charri" in "Boongas" (dome shaped thatched ricks).

Cattle Markets.

There are three cattle fairs, *viz.*, Behror, Dehmi and Alwar. The first held in May, the Dehmi Fair held in April and in September. Dealers come from the Punjab, North-Western Provinces and Oudh. A great many Rath cattle are sold at Rewari and Pushkar.

Prizes.

Prizes to the amount of Rs. 150 are given at each of the above fairs and this might with great advantage be increased. The prizes are given only to bullocks, they might well be given to cows and bulls, especially the latter, at 3 to 3½ years old. It would be easy to select from this class suitable animals for future sires (*vide* Note on Nagore).

Price.

Young calves selected for sires cost about Rs. 25. When full grown bulls they are not sold.

Description of Rath Cattle.

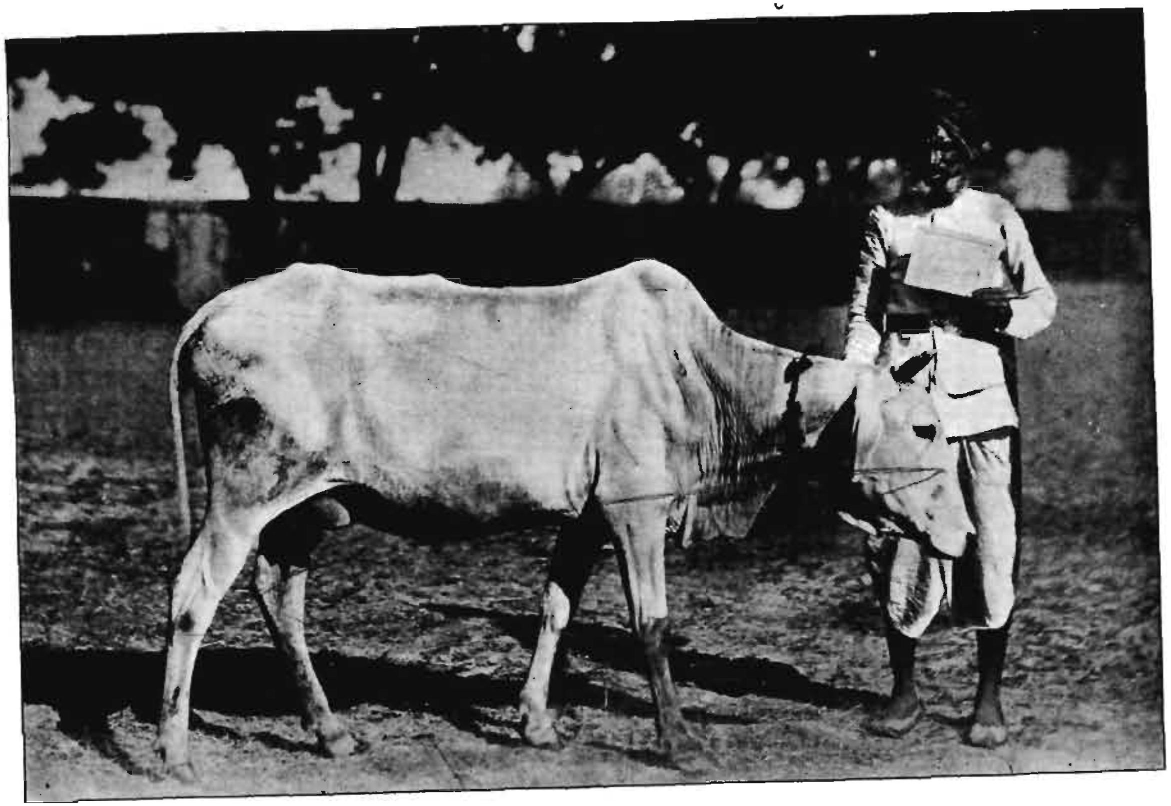
General Description.

The Rath bullock is a fairly big, strong, active animal, suitable for transport work and in many cases for siege train work.

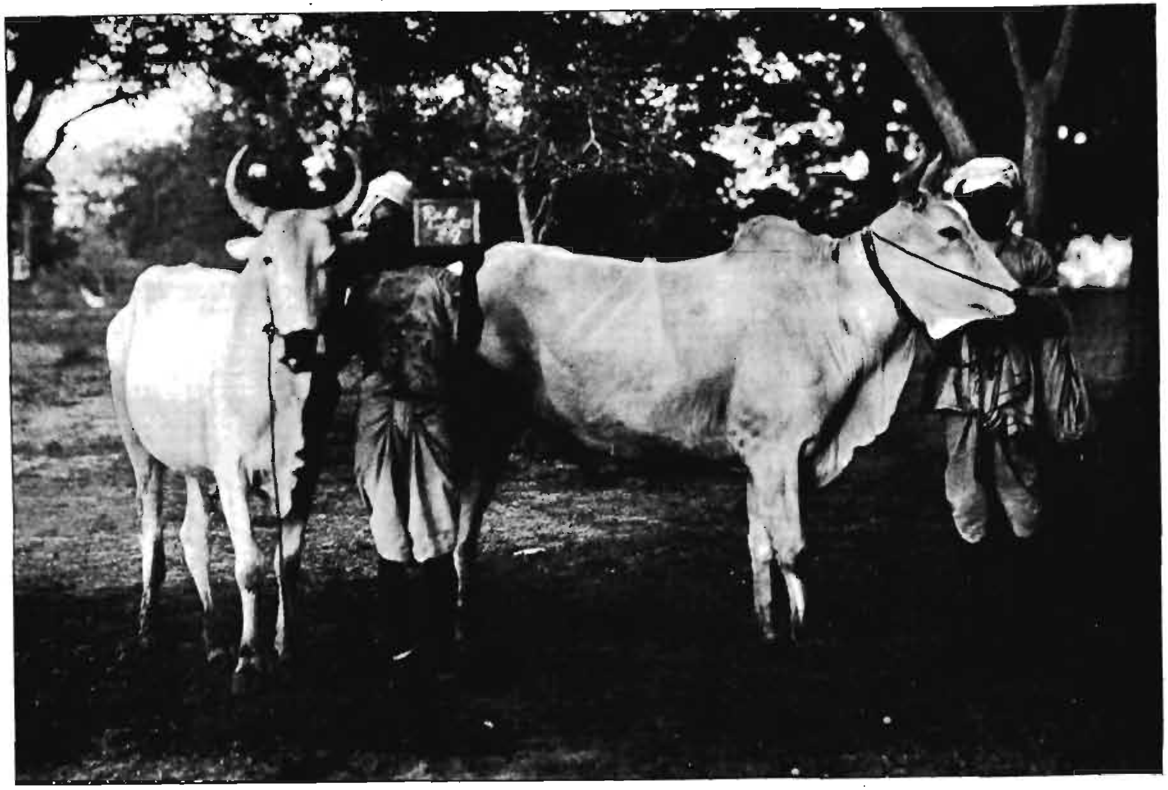
Head.—The face is perfectly straight and flat from poll to muzzle. The forehead has no tendency to protuberance in full grown animals. Young ones of three years and younger have a slightly protruding forehead which straightens up as they reach maturity. The nasal bones are somewhat wide and coarse, the muffle has a peculiar upward tendency giving it a pugnosed appearance and in many cases the under lip clearly shows when the animal is viewed from in front. The upper lip is fine and mobile, the eyes wide open and clearly defined by the dark eyelids, as seen in the Nagore breed. The ears are short and pendulous, the inner surface facing forwards. The horns are upright and curved inwards, very similar to those of English shorthorns.

Photo shows a pair of ordinary Rath bullocks. The neck is fairly long, the dewlap small, the hump fairly well developed and situated far back as compared with that of the Nagori. The shoulders are very deep, the legs straight, but there is occasionally a tendency to turned out toes. The feet are small and compact differing from the wide spreading feet of Mewat cattle. The girth is deep and the ribs are well rounded. The back short with powerful loins, running into well-shaped quarters, but the tail is badly set on which gives the quarter a

PLATE IX



RATH COW
At Behoor.



RATH BULLOCKS

Near Behoor.

somewhat drooping effect. The tail is short and fine terminating in a tuft of black hair just below the hocks.

The one on the right is very good. The turned up nose is apparent in both.

The gaskins, hocks and hind legs are well shaped and the sheath is very small. The prevailing color is white or grey. They are considered superior to Mewati bullocks; the natives say that "the Rath works for twenty years and the Mewati for fifteen". They are not considered so good as the Nagore but are liked by the Zemindars as they are smaller, eat less and are much hardier. They are the poor man's bullock, while the Nagore is the rich man's, the latter being very highly valued by people of the Bunniah class for their trotting Majholies.

Description of Bulls.

The bulls are medium sized, thick set and strong. The prevailing characteristics are the same as those described in the bullocks, but they have thicker and comparatively *shorter horns*, a much larger hump and better quarters, the tail being more symmetrically placed. *No measurements* could be taken as no bull seen had ever been tied up or handled In the bull the color of the neck and shoulders is generally darker than that of the rest of the body, this is seldom seen in bullocks.

Cows.

The cows are small compared with the bulls and bullocks. Their horns are small and fine and the ears in all cases comparatively larger than the bullocks. They are very active and hardy little animals. They are only poor milkers, even when kept for dairy purposes the maximum yield is 8 seers. The prevailing color is grey or slate.

Working capabilities.

The bullocks are very good workers in the plough, well and cart. The soil in this part of the country being heavy sand, powerful active bullocks are essential and the Rath is well suited for work in this kind of country. They are neither so fast nor as powerful as Nagore and therefore cannot cover the marvellous distances the latter are credited with; but they work steadily for ten hours a day and can travel about 20 miles a day in heavy sand. The zemindars say they can pull a load of 12 maunds at this pace, whereas the Nagore could travel 40 miles in the same time but could only pull about six maunds.

The working hours are from 6 A.M. to 12 noon and again from 2 P.M. to 6 P.M.

Milking capabilities of Cows.

An ordinary cow that gets a living grazing and has very little subsidiary diet gives about 5 seers of milk but if she be-well fed on a diet, similar to that given to a bullock, in addition to the grazing, the yield may reach 8 seers. The cow generally remains in full milk for 4 months after calving, after which the yield becomes gradually less.

Methods of breeding Bulls.

Each village is supplied with one or more bulls in the proportion of 1—100 cows and this is arranged for by the villagers themselves. As a rule, a bull is let loose on some religious festival by a philanthropic Bunniah, or on the occasion of some rich man's demise, by a relative.

The calf is selected by the unanimous approval of the villagers and by this means a good one is generally selected. The selection takes place when the animal is two years old. Henceforth he is kept by the general public, having the free right of grazing, etc. Cows are not mated with any particular bull, the one bull only exists and is common property with his own herd. A zemindar does not attach much value to the quality of the cow; he is quite satisfied if the bull is good.

Castration.

Bulls are emasculated by mulling at the age of 2½ to 3 years.

Price.

The cows are valued at 10 to 50 rupees.

Bullocks at 200 to 300 rupees per pair.

Bulls are not sold except for purposes of herd bulls when the owners from whom the calf is taken may be given 30 to 80 rupees by the donor of the bull.

Diseases.

Rinderpest (*Bara Rog*) Foot and mouth disease (*Mata ki bahar*).

MEASUREMENTS OF RATH CATTLE.

Sex.	Height.	Length of body.	Girth of chest.	Girth of shank.	Length of shank.	Length of horn.	Length of face.	Breadth of forehead.	Age.	Colour.
Rath Bullock No. 26 .	61	65	80	9	7	12½	21	7	5	White.
„ „ „ 27 .	60	63	81	9	7½	13	22	7½	5	„
„ „ „ 28 .	56¾	56	73	8	6¾	6	19½	7¾	3½	„
„ „ „ 29 .	56½	56	72	7	7	13½	21	7	5	„
„ Cow „ 30 .	48	55	57	6	6	4	18	6	5	„
„ „ „ 31 .	48	59	59	6	6¾	5	17	5½	8	„
„ Bull „ 32 .	Measurements could not be taken.									Slate.
„ „ „ 34 .	Ditto	ditto							7	
„ Cow „ 33 .	51	48	64	6¾	6½	7	17	6	5	Slate.

MEWATI BREED.

This breed is valued in the district called Mewat, the centre of which may be said to be Alwar. The general principles of breeding, rearing, etc., are practically the same as are in vogue with the Rath breed which is found in the next district and which is very similar to this one. The Mewati is undoubtedly a very useful animal and is sold largely at the Rewari and Pushkar Fairs always realising good prices. In temperament the bullock is a slower and much more lymphatic animal than the Rath or Nagore and for that reason is more appreciated by some cultivators, as he can be kept on less food and will not lose condition as much as either of the above breeds under adverse conditions. He is smaller and not so powerful and consequently unable to do as much work in the deep sandy country in which he is bred.

Although the photograph is not an artistic success it shows the points of the animal very well. This bull was very difficult to get near and it was impossible to handle him.

DESCRIPTION OF MEWATI BULLOCKS.

They are small, sturdy, slow moving, lymphatic animals, much appreciated by the zemindars as they are good workers and do not require so much food as larger animals do. The better class ones make good transport bullocks and some might be suitable for ordnance purposes.

Distribution.

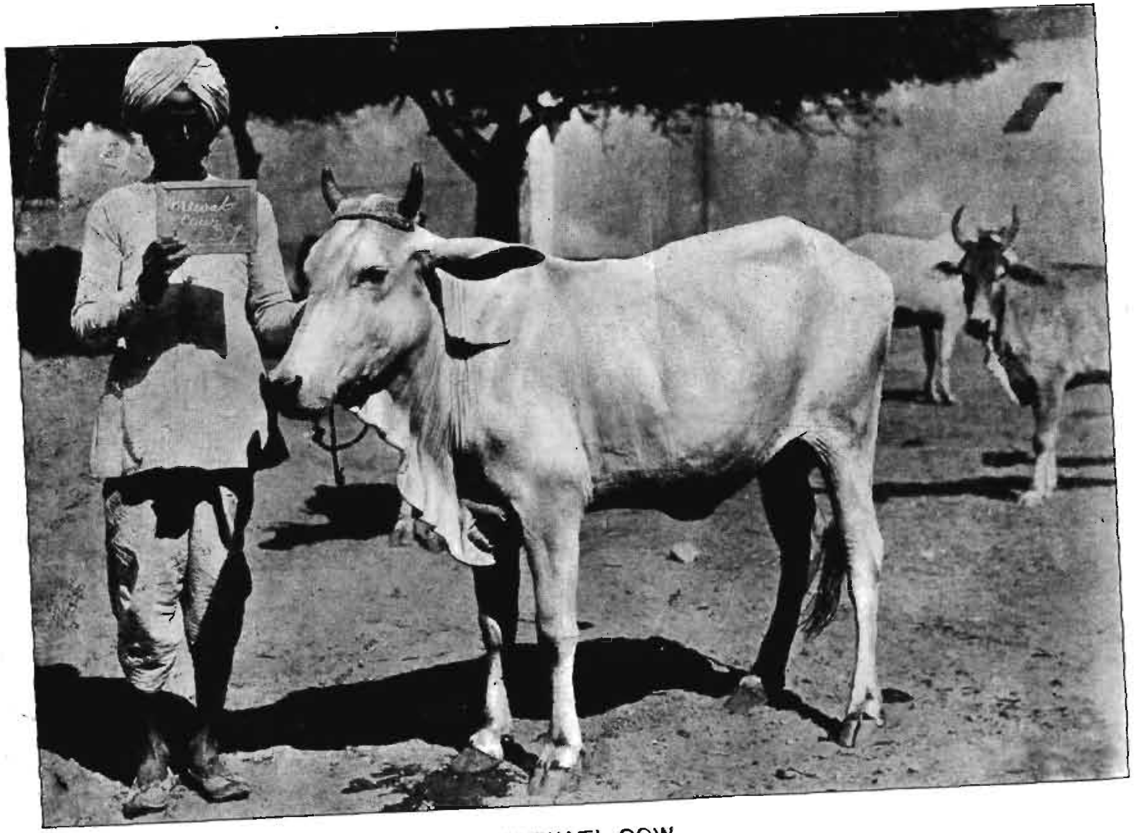
The Mewati is found in the districts to the east and north of Alwar (one of the states of Rajputana), and to the west of Bharatpur.

Character of country.

The country is rocky, sandy and intersected by the lower hills of the Arwali range.

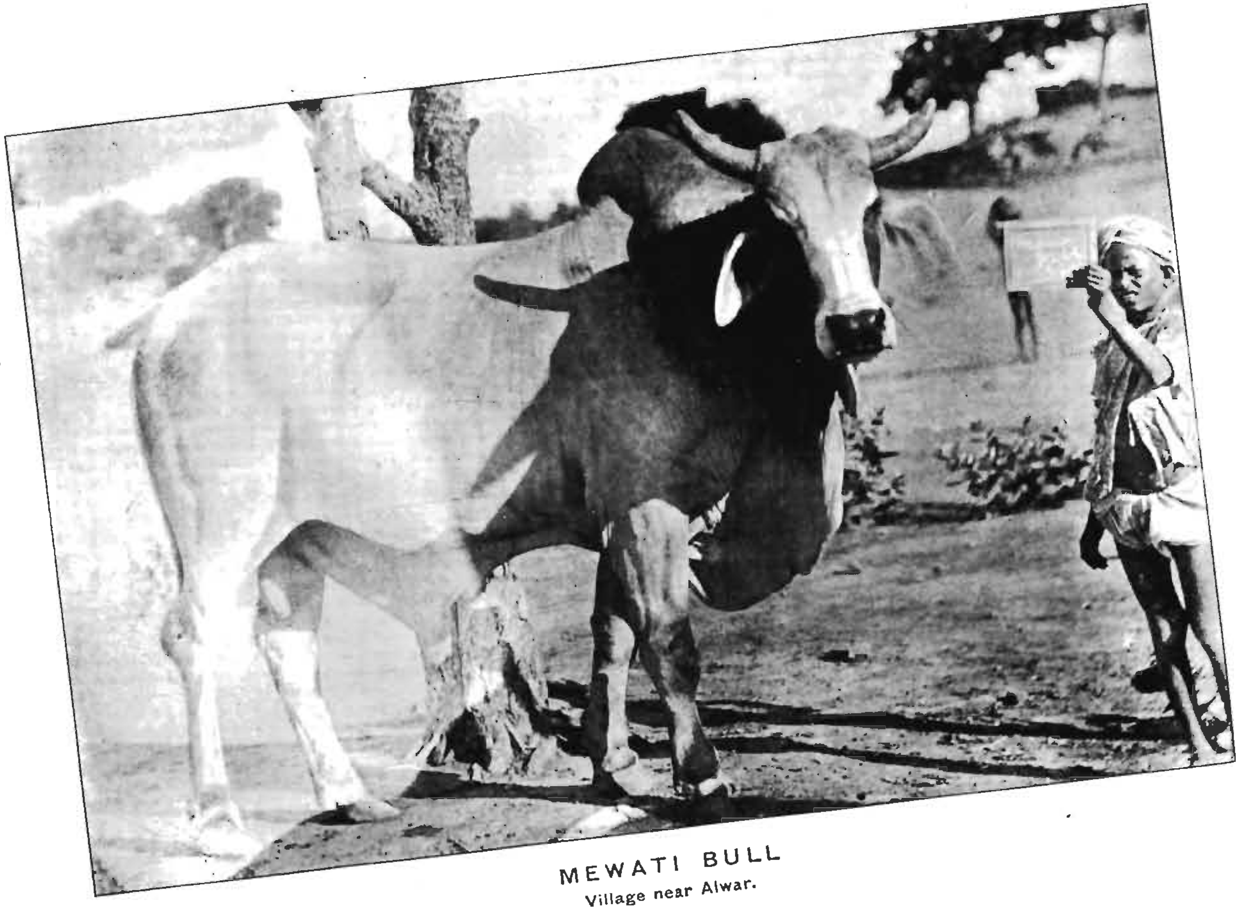
Description.

Head.—The face is short, the forehead wide and the eyes are prominent and surrounded by a black rim which is more prominent than in the Nagore. The muffle is wide and square and the upper lip thick and overhanging, giving the upper part of the nose a contracted appearance. The horns are thick at the base, curving upwards, outwards and inwards and terminating in an abrupt point. There should be no tendency to a backward curve as in the Nagore. The ears are pendulous and somewhat short. The neck is fairly long, the hump small and the shoulders short, giving



MEWATI COW

From Village four miles from Alwar.



MEWATI BULL

Village near Alwar.

the forehand a somewhat jumped up appearance. The dewlap is small, the legs are short, and the girth is shallow compared to that of the Nagore bullock. The back is long and the quarters are fairly straight, the tail is fairly well set on, long and coarse, reaching to the heels and terminating in a thick tuft of black hair. The gaskins are strong and wide, the hocks somewhat bent and the feet large and spreading.

Description of a Bull.

In the bull the head is short, the forehead flat and slightly concave, the nostril small, and the upper lip wide but mobile as in the bullock. The horns are short and thick at the base curving upwards and outwards. The ears are long and pendulous, the neck is long, the dewlap and hump are well developed, the back is long, the croup very short, the tail long and terminating in a tuft of coarse black hair at the fetlock. The shoulders are short, the chest is deep, the ribs somewhat flat, the legs short and powerful, the feet wide and spread out and the sheath small.

Description of a Mewati cow.

Cow. The cows are very small as compared with the bullocks. Their legs are fine and rounded, almost deer-like and they are very active and wild.

Price. The price varies from 25 to 40 rupees per cow. A young bull calf for breeding purposes, one year old, costs Rs. 30 to 40.

Work. The bullocks are used for cart, plough and well work. They work ten hours a day. A pair of good bullocks can pull 15 maunds for 12 miles and a light cart for about 20 miles in a day. They can march on an average 3 miles an hour.

Fodder. Feeding is the same as that of the Rath breed.

Breeding. A bull is kept in every village and the zemindars are very particular in selecting a good one. The proportion of bulls to cows is the same as in Rath and Nagore. The whole quantity of milk is never given even to a very young calf

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and a heifer is always given less food than a bull calf. This system appears to be general throughout this district.

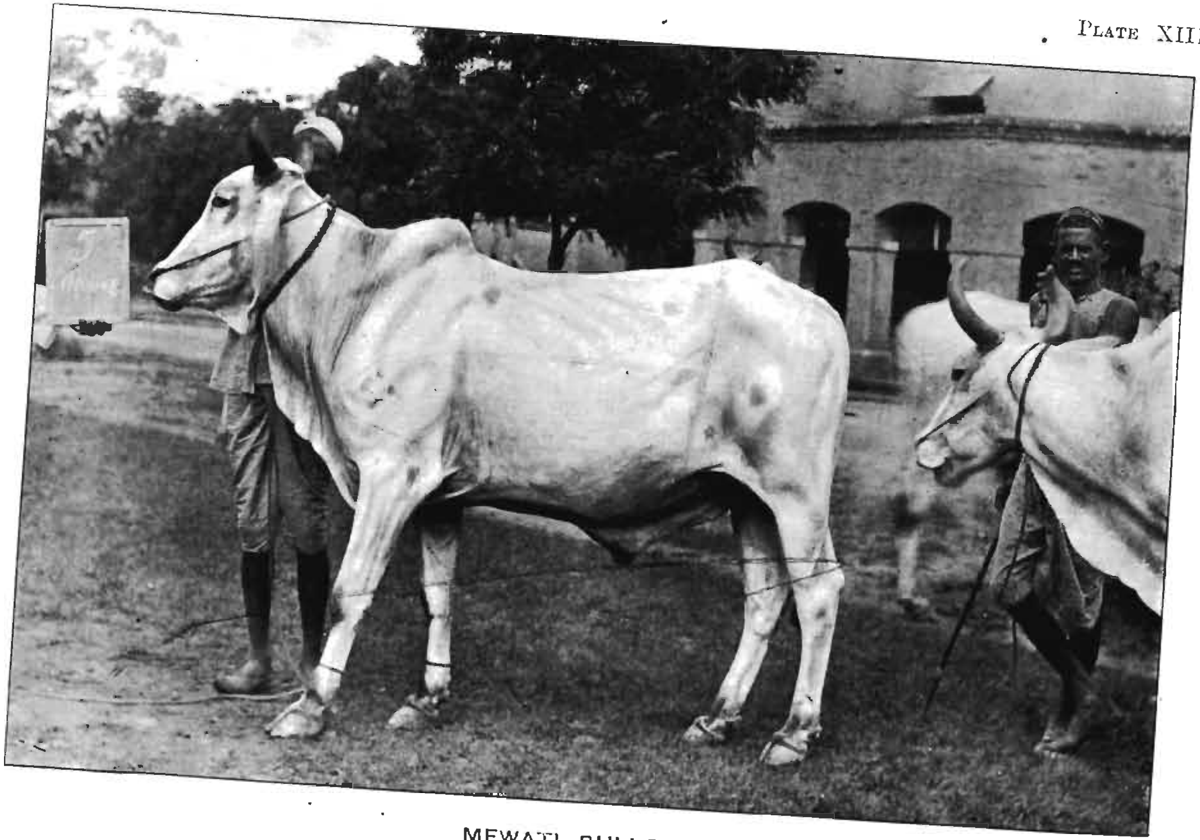
Castration. Emasculation is performed by mulling at 2½ to 3 years of age.

Diseases. The most common are *Dukh* or Rinderpest, *Bang* or Foot and mouth, *Kutlee* or Anthrax.

Colour. The prevailing colour is white.

Milk. Cows are not kept especially for milking purposes and the ordinary yield is about 5 seers a day.

PLATE XIII



MEWATI BULLOCK
Near Alwar.

MEASUREMENTS OF MEWAT CATTLE.

Sex.	Height.	Length of body.	Girth at chest.	Girth of shank.	Length of shank.	Length of horn.	Length of face.	Breadth of forehead.	Age.	Color.
Mewat Bullock No. 23 .	56	54	69	7½	6½	14	21	7	6	White.
" " 24 .	54	57	66	6¾	7	10	21	8	8	"
Calf " 25 .	50½	54	59	6½	7	4	17	7	2	"
Cow " 35 .	48	48	60	5¾	6½	9	18	6	5	"
" " 37 .	49	46	58	7	6¾	6	19	6½	7	"
Bull " 36 .	61	69	74	8½	7½	10½	22	6½	7	Slate.
Mewat Buffalo " 38 .	49½	51	77	8	5½	17	17	8½	8	...
" " 39	50	50	71½	8¾	5	18½	18	9	7	...

Begri Breed.

District and Peculiarities. The Begri is a small distinct breed of sturdy cattle, small both numerically and in size. It is confined to a particular tract of country in Rajputana in which it is much prized. Unfortunately the late famine and scarcity have thinned the herds very considerably, in the Toda Rai Singh district no cows have been left and it was with great difficulty that owners managed to save their working bullocks.

The actual breeding centre is around Dholpur in a somewhat confined area extending from Tonk in the Jaipur direction to some 120 miles to the west and south of the latter place but the centre of the district containing these cattle may be said to be that part of Rajputana which extends in a radius of 40 miles from Toda Rai Singh, 24 miles from Tonk and 74 from Jaipur. Throughout this district, with Karowlee and part of Deoli, Begri cattle are extensively used and also bred and reared. In general appearance they are handsome and docile animals reminding one very much of Scotch Highland cattle and quite distinct from any breed in India. As has been said, they are bred in

Fairs. Dholpur, Karowlee and Uniara, and sold from there at the Kekree and Pushkar fairs.

Soil. The soil is black (Kala Mal) and a good fodder producing one, the lower stratum of the earth is rocky but the rocks are generally hidden.

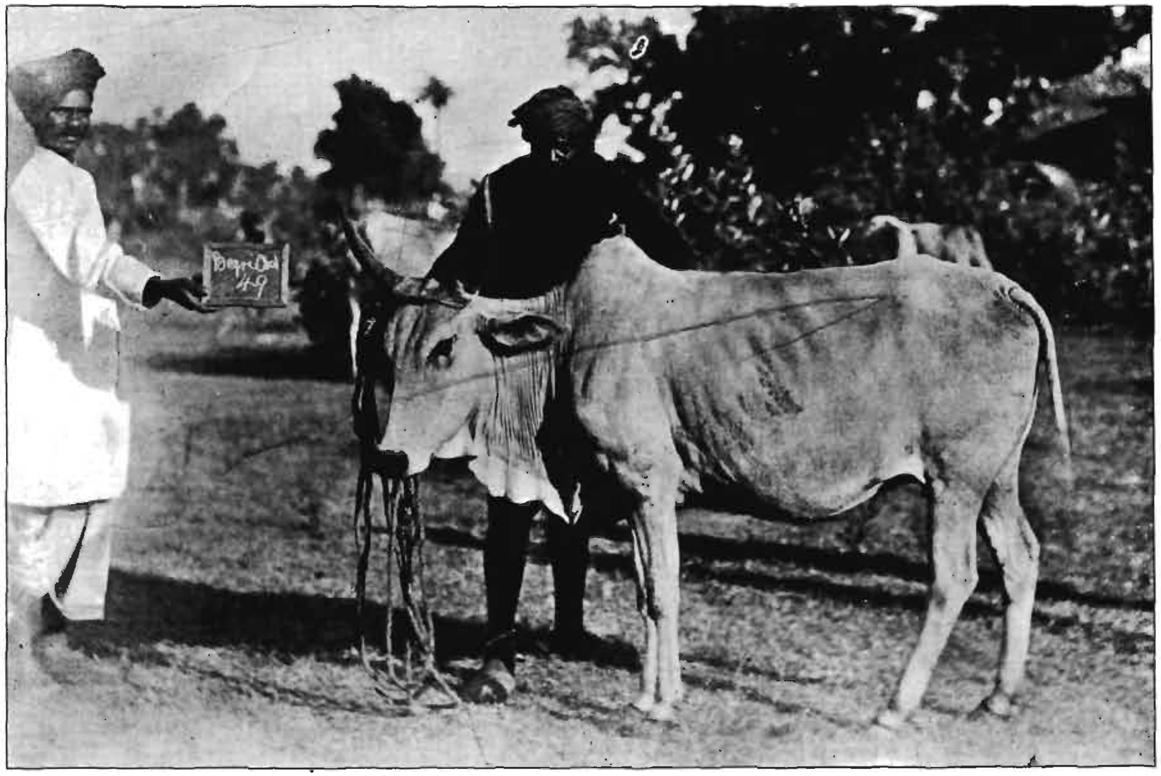
Water. The crops depend entirely on the rainfall, there being practically no irrigation.

History. This tract was in the time of former Rajas wholly employed for the production of fodder for cattle but now cultivation is becoming extensive (some kutcha and one or two pucca ponds have been constructed for the collection of rain-water; and drinking water is obtained from *Baolies* (pucca ponds) and wells.)

Description of Begri Cattle.

Cows. The cows are small, brown, black, white or red in color, the latter usually being preferred by the people.

Head.—The face is wide and flat the forehead very wide and concave. The nose is wide and the horns curve boldly upward



BEGRI COW. A good one
Taken at Toda Rai Singh, 24 miles from Tonk
Colour white, speckled red.

The cattle are said to be indifferent, lazy and troublesome at work, bad tempered even to showing fight ; instances have been known of two or three of them resisting the attack of a leopard. They do well on short rations. They are used for all kinds of show work, plough, cart, well and baggage and are especially adapted for hill work, being so short on the leg and having strong feet, their pace is slow, seldom over a mile and a half an hour.

MEASUREMENTS OF CATTLE OF RENDA BREED.

Sex.	Height.	Length of body.	Girth at chest.	Girth of shank.	Length of shank.	Length of horn.	Length of face.	Breadth of forehead.	Age.	Color.
Renda Bull No. 52 .	49	51	60	6½	7	7	20	8½	7	White.
„ Cow No. 53 .	47	52	60	6¾	7	7	20	7	6	„

BHARATPUR WILD CATTLE (SO CALLED).

Description.

The herd of cattle at Bharatpur is composed of cattle that used to run wild throughout the Bharatpur State. They eventually became such a nuisance to agriculturists that it was decided to fence them in. A ring fence of wire having a circumference of 17 miles was constructed and into this enclosure all the unclaimed wandering cattle of the district were driven. The expense was borne by the Bharatpur State and was carried out by the orders of the Rajah under the direction of Thakur Kalyan Singh. He has done his work exceedingly well and agriculturists are no longer troubled by wild cattle trampling upon and eating their crops. This was only accomplished within the last few years and since the cattle have been kept in the enclosure they have become tame and the bullocks are now sold for draught purposes, the cows being kept for milk. Thakur Kalyan Singh has in this way inaugurated a scheme for what should in course of time become a very valuable stud for the production of transport cattle.

Origin.

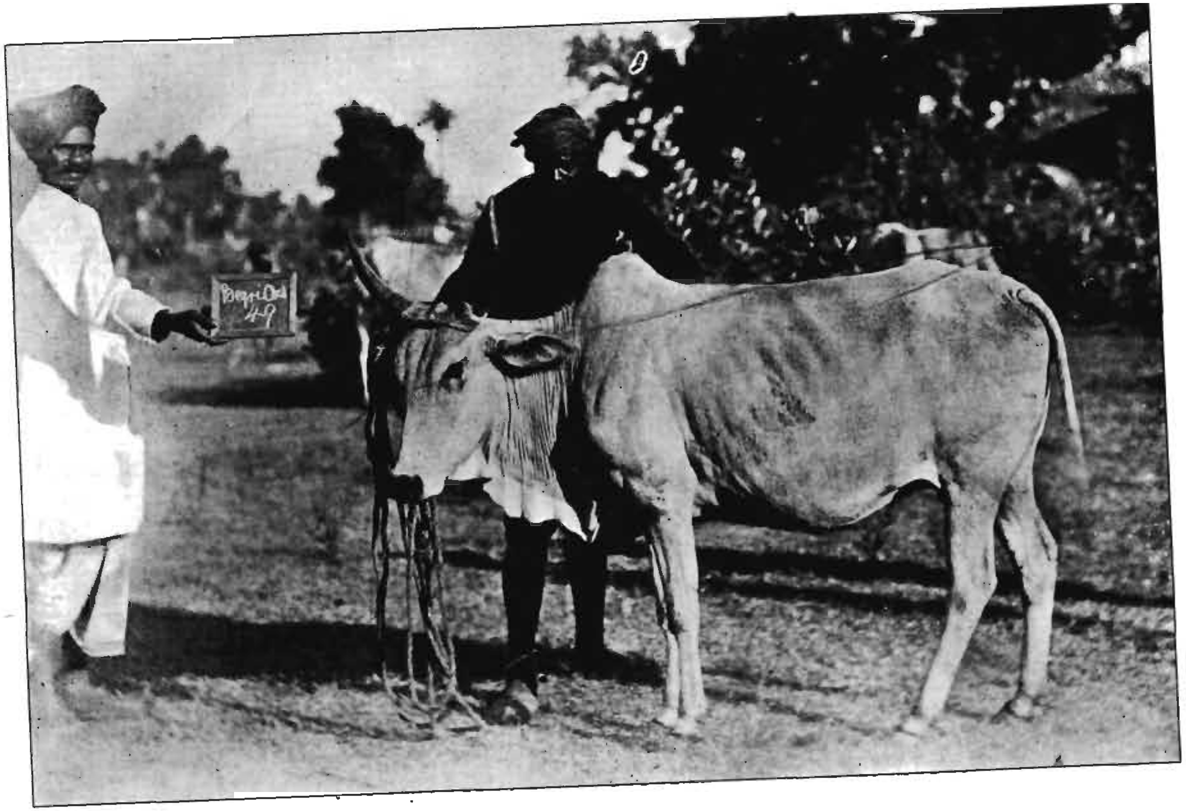
The breed from which these so-called wild cattle have emanated is probably the Begri breed found in Karowlee and Jaipur (*vide* Begri breed) but they have become crossed to a certain extent with the Mewati (*vide* Mewati). As a result of their having been in a wild state they have become very small, though extremely hardy and graceful. The cross with the Mewati has eliminated the long spiral horns of the Begri and has also given the cattle themselves a tendency to greater size.

Improved Breeding.

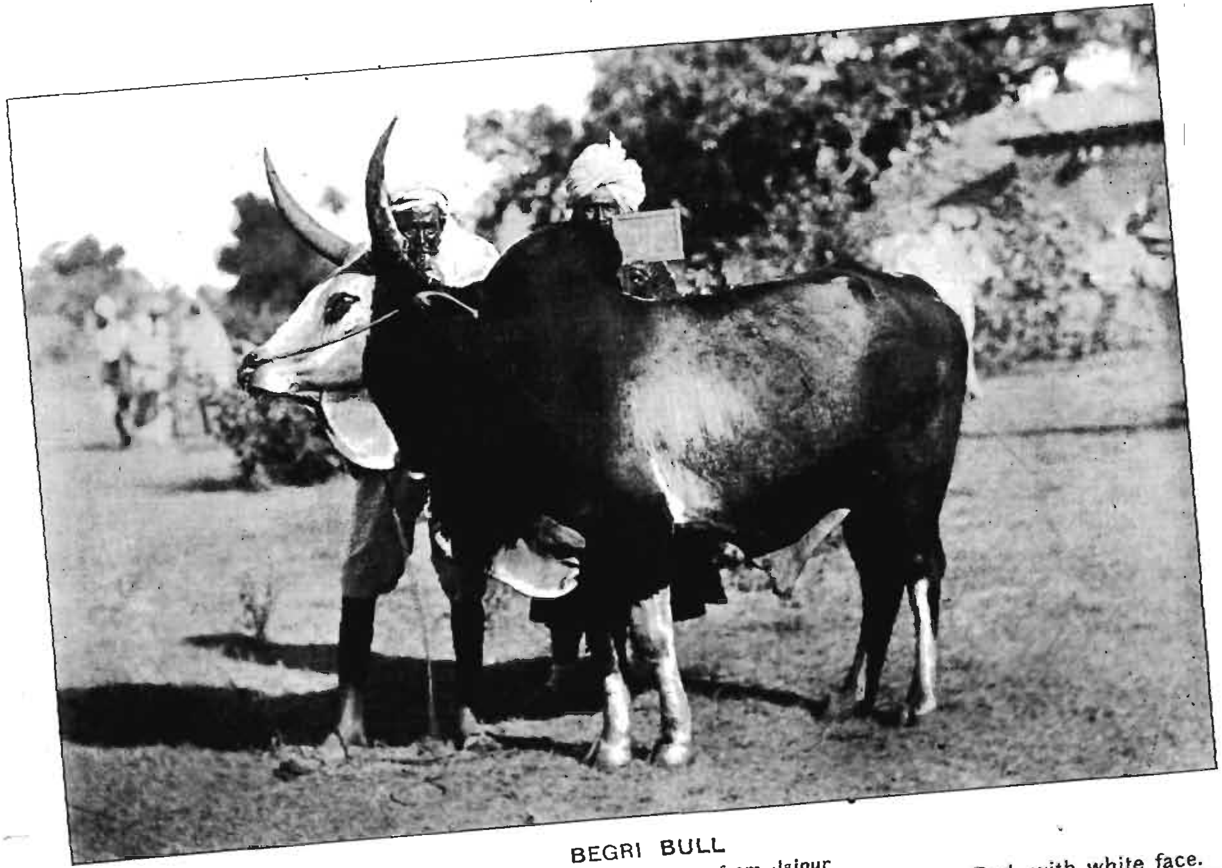
In order to improve the breed now that they are in a state of domestication and more or less tractable, it would be well to endeavour to breed up to a Mewati type. The foundation is already there and by the careful use of pure bred bulls from Mewat and their distribution amongst selected cows of the herd there is no reason why in the course of a very few years a perfect stud of transport producing animals both for Military and Zemindari purposes should not be formed.

Recommendation for Breeding.

The Mewati is suggested as a type to breed up to because the cattle of this breed are big and strong animals suitable for any transport work and the cows are very fair



BEGRI COW. A good one
Taken at Toda Rai Singh, 24 miles from Tonk
Colour white, speckled red.



BEGRI BULL

Toda Rai Singh, 70 miles from Jaipur

The horns do not show the spiral twist, but otherwise a very good specimen. Red, with white face.

BEGRI BULLS
Used for draught showing spiral horns
Taken at Toda Rai Singh.

and outwards, having a spiral twist. The neck is short, the hump well developed, the back short and the ribs well rounded. The croup is very long and the tail well set on, short and whippy and terminating in a bushy tuft of black hair which reaches well below the hocks. The legs are short and the feet fine, small and compact.

Begri Bullock.

They are white, red and black in color or a mixture of all three. A mixed color, particularly red and white, is preferred by the people. The head is comparatively small, the face short with a wide forehead, as in the cow; the eyes set well back, with heavier eyelids than seen in the cow, the nose wide and the ears short and pendulous. The neck is short, the dewlap well developed, the hump only moderately large. The shoulders are deep, with a good slope, and the forelegs short and powerful. The back is somewhat long compared with that of the cow. The sheath is well developed, the quarters short but fairly straight, the tail well set on. The gaskins and hocks are well developed, the feet small, hard and compact. The tail has very bushy hair at the extremity.

Bull.

The description of the bull is the same as that of a bullock except that the hump is more developed. Most of the working animals are entire and are said to give no trouble. The zemindars have a prejudice against castration.

Work.

Bullocks and bulls are used indiscriminately for work as castration is not a recognised custom. Bulls, however, which are used in work are never used for breeding purposes, as natives say that if they have once covered they become unmanageable in draught.

The work performed is the same as in other places. They are small sturdy animals but slow and lymphatic in their movements and are said not to do well except in a sandy country. They are hence unsuitable for military transport or ordnance.

Milk.

Cows are not generally kept for milking purposes and even if stall-fed and the usual means for increasing the milk supply are adopted, they are but poor milkers, the ordinary yield being only 2 to 4 seers a day.

Fodder and Feeding.

The following common grasses of the district are "Nilotee", "Jingla" and "Soolee" which grow extensively on uncultivated areas, in which places the cows are turned loose during the day for the greater part of the year. Working animals only are stall fed, except when being rested, at which time they are turned out to graze near the villages.

Cows when with calf and in milk are given extra food consisting of cotton seed and "Khal" about one seer, "Guar" and "Churree," about ten seers. This diet is also given to working animals.

Breeding Bulls.

Attention is given to the selection of bulls. The usual Hindu custom of rich Bunniahs turning loose the bull calves on the occasion of certain religious rites is practised. Bulls are not as a rule allowed to cover until they attain the age of 4 years although they are allowed to wander about in the vicinity of villages and get very good feeding from the crops. The percentage of bulls amongst herds is small for which reason they are unable to efficiently cover the cows, it therefore often happens that immature bulls which are not yet old enough to work, cover a certain number of the cows and for this reason there is a tendency to deterioration amongst the cattle. Breeders in this district do not pay very much attention to the quality of the cows. All cows are turned loose in the common herd and are covered indiscriminately by the bulls, although endeavours are made not to allow a cow to breed until she is three years old.

Young Stock.

Young stock are treated in the same way as in Mewat.

Castration.

The prejudice against castration is more apparent in this district than in any other part of Rajputana, practically none being performed in the Toda Rai Sing tehsil. It is very common to see entire animals at work in the fields and carts. They are generally docile, except when they have been allowed to do any covering. A certain amount of emasculation is, however, performed by the usual mulling process. Cattle are sent for the purpose to some distance where the operation is performed away from the owners' vicinity and so does not offend his prejudices.

Prevailing price.

Cows fetch from 10 to 25 Rupees and Bullocks 50 to 100 per pair.

Prevailing disease.

The common diseases are Foot and Mouth and Rinderpest.

General Remarks.

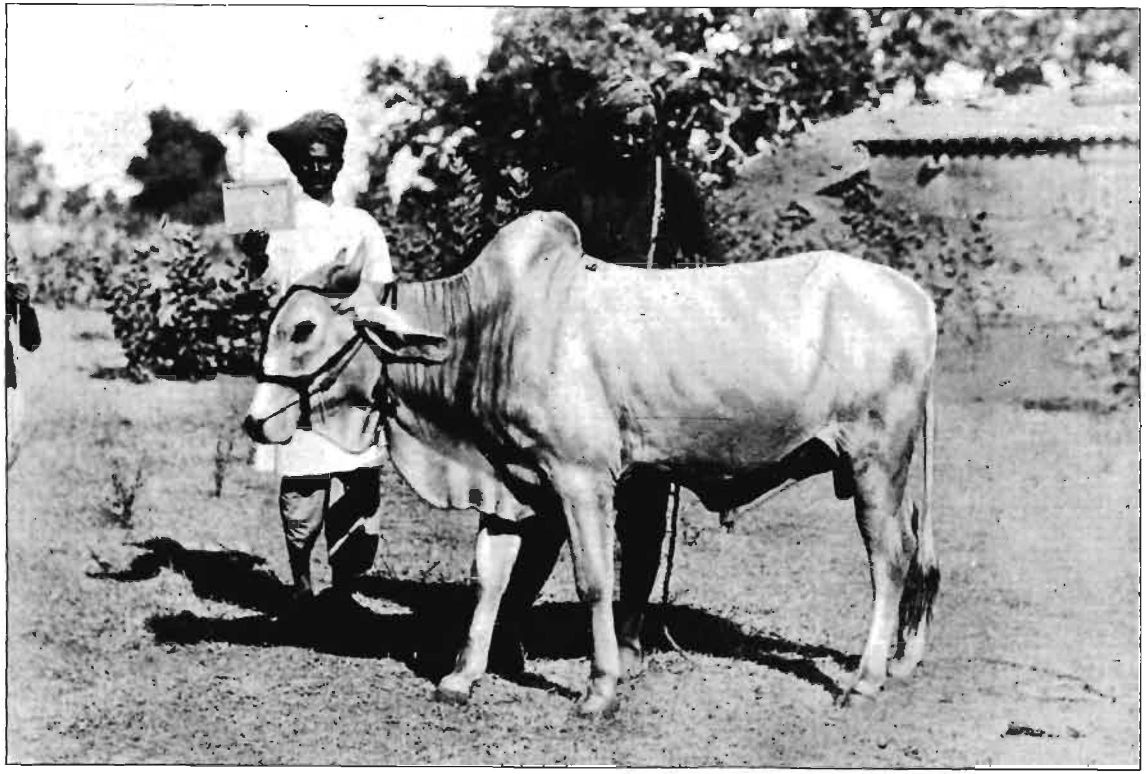
Within late years a great deal of ground has been taken up for cultivation. Formerly the village lands were divided into three parts, *viz.*, one for pasture, one for cultivation and one reserved for the growth of grass used for stacking purposes. Every three years these tracts of lands were interchanged. Cultivation having greatly extended, the area devoted to grazing for cattle has become very limited and this was severely felt during the recent famine. It seems advisable to give more attention to the subject and to reserve Rakhs for fodder.

Fairs.

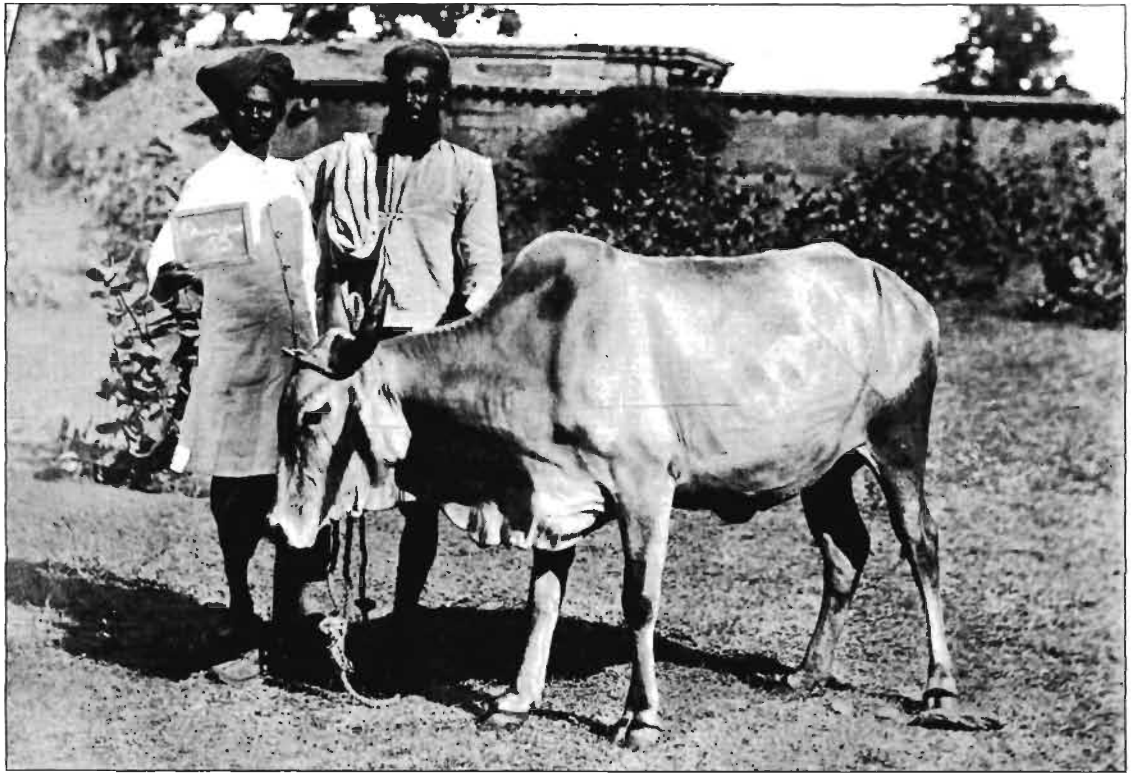
The fairs at which these cattle are found are those held in the districts of Alwar. It would be advisable to form one or two classes for this breed and to give prizes at the Pushkar fair.

MEASUREMENTS OF THE BEGRI BREED CATTLE.

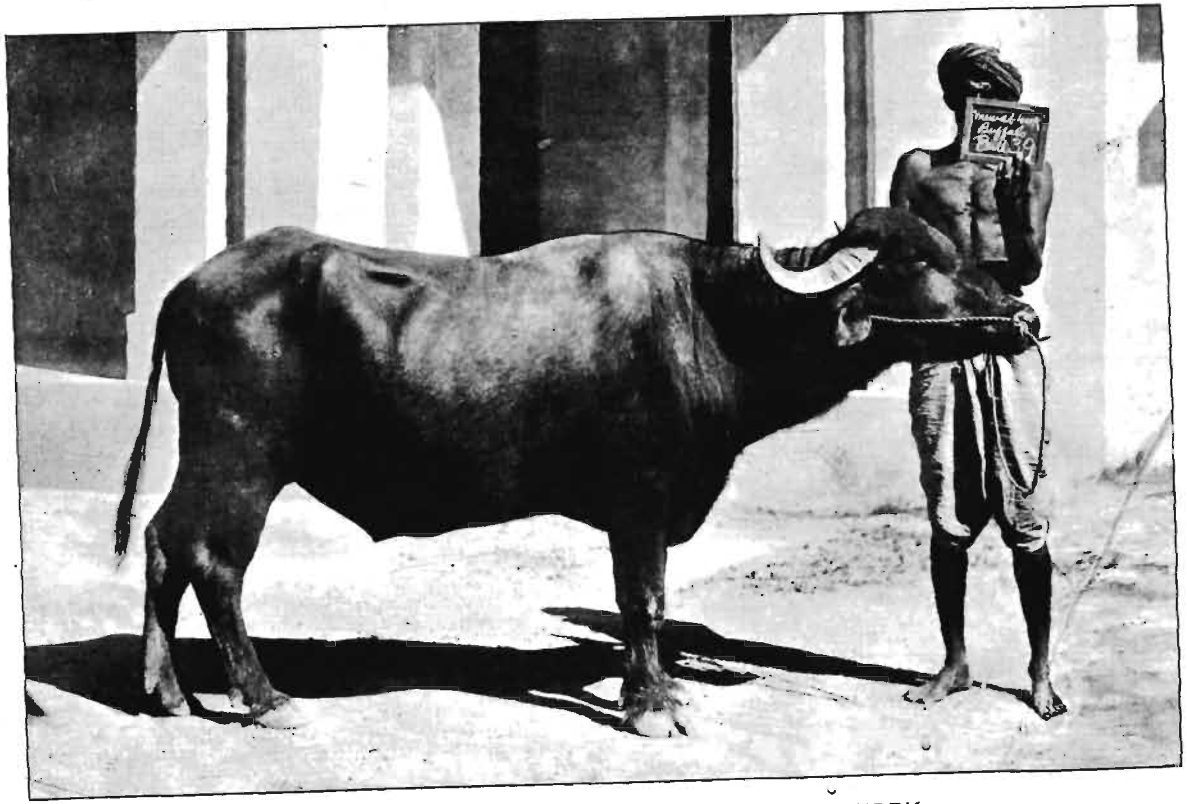
Sex.	Height.	Length of body.	Girth at chest.	Girth of shank.	Length of shank.	Length of horn.	Length of face.	Breadth of fore-head.	Age.	Color.
Begri Cow No. 49	45	45	56	5¾	5½	Head could not be measured.			...	...
„ Bullock No. 50 (in pair.)	53	56	73	8¼	6½	26	20½	7	8	White
„ „ „	54	54	71	7¼	6½	26	21	7¾	8	Red.
„ Bull No. 51	51½	55	66	7¼	7½	22	20	7	7	Black and white.



RENDA BULL—3 years old
Near Tonk.



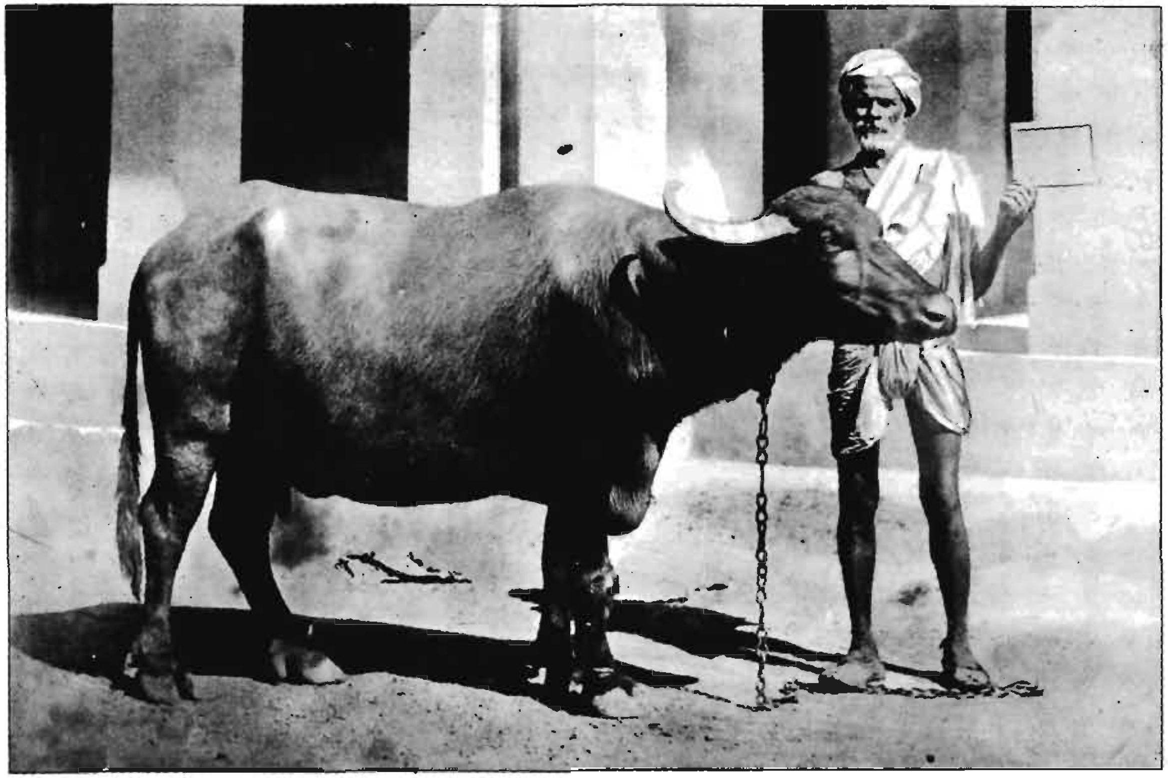
RENDA COW
Near Tonk.



MEWATI BUFFALO BULL, ALSO USED FOR WORK

Taken at Alwar

Owner of cows pay 8 as. for the covering of a cow.



MEWATI BUFFALO COW
Taken at Alwar.

Work and Milk.

milkers. The cattle of the Begri breed are small animals and the cows are very poor milkers. There has lately been a small importation of cross bred bulls from Hissar

Cross Breeding.

but it would appear to be more advantageous to breed to one type. It would also be a mistake to endeavour to maintain two or three distinct breeds. The one breed already mentioned is useful and likely to be profitable.

Grazing.

Moreover, in so large a collection they would necessarily be split up into a number of smaller herds so that there would be no fear of excessive in and in breeding. The grazing grounds are very extensive and well shaded with a good water supply and even in such a year as that of 1901, there was a fair amount of grazing and in a good year there is abundance.

Reducing Number.

The total number of cattle is 5,273. This I consider too many; it would be much better to thin the herd to ¾ of the present number.

The Mewati Buffalo.

There is a small and unimportant breed of buffaloes in the district of Mewat.

Description.

The Mewati Buffalo is a small compact animal. The head show a convex frontal surface. The horns are wide at the base, tapering backwards, and then upwards making a sharply defined curve posteriorly, terminating in a short sharp point. The ears are short and pointed backwards. The eyes small and close under the horns; the muzzle small and flat, the nasal bone straight, the neck long, the shoulder short, the withers low, the back short and wide, and the chest deep with well rounded ribs. The quarters are short, the tail small and fine ending in a tuft of white hair just below the hock. The legs are short and powerful, the feet wide and spreading and the sheath small. The cow is very similar to the bull.

Milk.

The cows are used only for milk and they are very poor milkers. They begin to give milk when four years old, the yield ranging from 5 to 10 seers. Some cows remain in milk the whole time they are in calf, *i.e.*, they continue giving milk till the next calf is born.

Price. The price of a buffalo cow depends upon the quantity of milk she gives and varies from 50 to 150 rupees.

A buffalo can work ten hours a day and is used in the plough, the cart and at well work in the cold weather but they do not stand the sun well in the hot weather.

Fodder. Feed the same as bullocks.

Buffalo calves are not castrated.

The best bull calf is selected for breeding purposes.

These buffaloes are found generally throughout Rajputana and are only a little better in Mewat than anywhere else. They are of minor importance as they at present exist.

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